

Table S1. Further information about candidate sensors.

Sensor model	Producer	Sensitivity	Response time (s)	Lifetime (years)	Price (¥)
TGS813	Figaro USA, Inc.	0.55-0.65	Short*	Long*	39.00
TGS822		0.3-0.5	Short	Long	35.00
TGS2600		0.3-0.6	Short	Long	14.50
TGS2620		0.3-0.5	Short	Long	45.00
TGS832		0.5-0.65	Short	Long	249.00
TGS826		0.4-0.7	Short	Long	550.00
TGS2610		0.50-0.62	Short	Long	30.00
TGS800		0.5-0.7	Short	Long	60.00
MQ-3	Zhengzhou Winsen Electronic Technology Co., Ltd., China	≥5	≤10	10	3.10
MQ-5		≥5	≤10	10	2.30
MQ-6		≥5	≤10	10	2.30
MQ-8		≥5	≤10	10	2.30
2M009	Beijing Guotai Hengan Technology Co., Ltd., China	> 5	< 10	3-5	150.00
2M012		> 5	< 10	3-5	120.00
MQK2		> 5	< 10	3-5	50.00

*Figaro's official website does not quantitatively give the response time and life of the TGS series sensors

Table S2. The specifications of components in the e-nose system.

Name	Type	Producer	Others
Data Send Port	CH340G	Shenzhen Kebi Electronic Technology Co., Ltd., China	-
Battery	QS-3S 12V	Nanning Hongruixiang Electronic Technology Co., Ltd., China	-
Signal Acquisition PCB	DoFlye cortex-M3	Shanghai Langyi Electronic Technology Co., Ltd., China	-
Reaction Chamber	Self-designed	Yuyao Xingke Mould Company, Ningbo, China	Material: ABS
Intake Pipe	N/A	Dongtai Fujun Plastics Business Department, Yancheng, China	-
Drying Tube	N/A	Nanjing Liebo Scientific Instrument Co., Ltd., China	-
Suction Pump	KVP04-1.1-12V	Kachuaner Fluid Technology (Shanghai) Co., Ltd., China	-
Voltage Regulator Module	EV 12V-5V	Shenzhen Yiwen Technology Co., Ltd., China	-