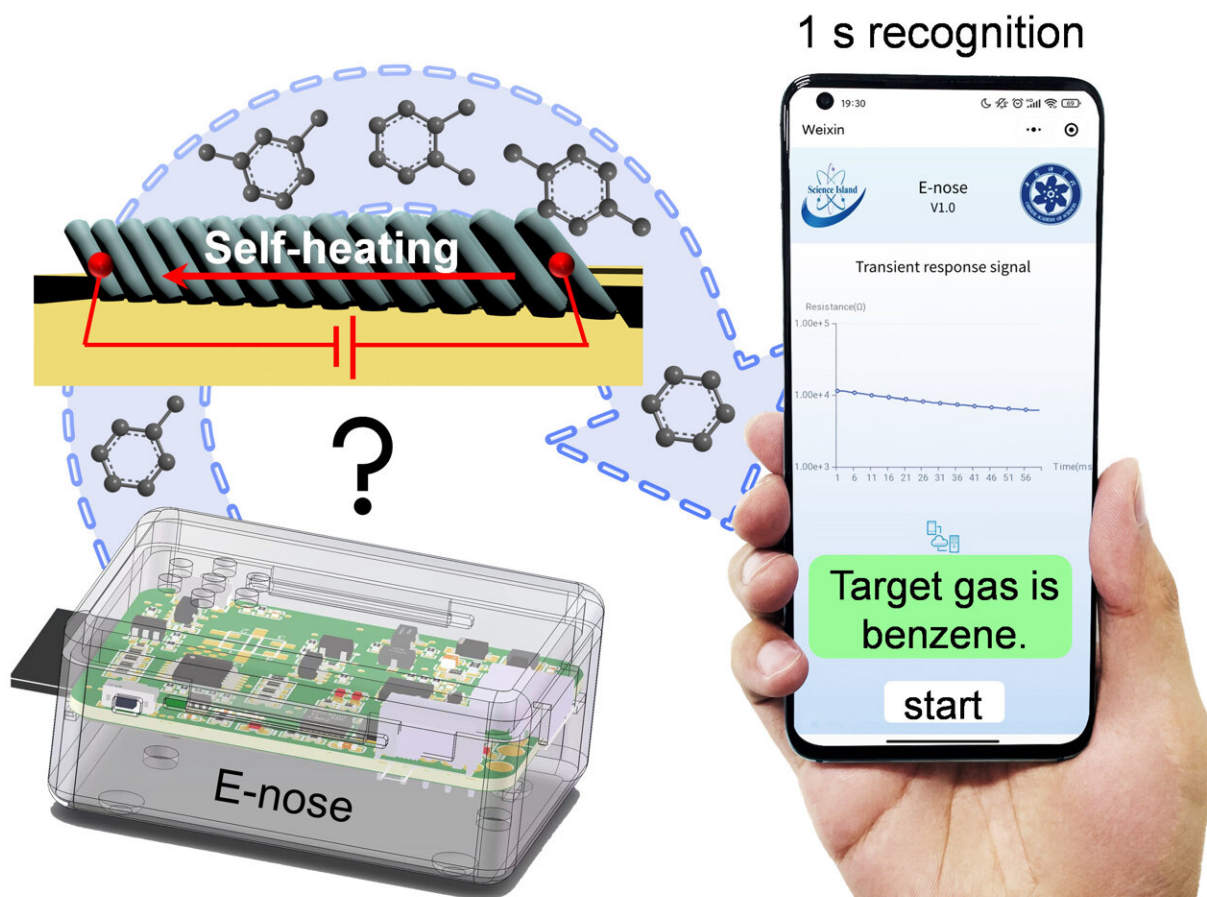# Smart e-nose uses self-heating temperature modulation to enable rapid identification of gas molecules

February 19 2024, by Zhang Nannan

Smart E-nose system based on the self-heating temperature modulation. Credit: Li Meng

A recent study published in *ACS Sensors* highlights the development of a smart electronic nose (e-nose) by a research team led by Prof. Meng Gang from the Hefei Institutes of Physical Science of the Chinese Academy of Sciences.

The novel e-nose utilizes a self-heating modulation strategy to accurately distinguish different types of target gas molecules within just one second.

Significant progress has been made in gas molecule detection using e-nose comprised of non-selective semiconductor gas sensors. However, extracting adequate molecular features in a short time (