

Scientists create tiny mass spectrometer

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Purdue University scientists have created battery-powered, miniature instruments that might be used in protecting against terrorist bombings.

The hand-held mass spectrometers are designed to be deployed in wireless sensor networks in such places as airports, subway systems and office buildings to detect minute traces of triacetone triperoxide, or TATP, which was used by terrorists in last year's London subway bombings and is a common explosive found in improvised explosive devices.

"It's one thing to detect a substance, but it's another thing to be absolutely certain of its composition, which is what you get with mass spectrometry," said R. Graham Cooks, a professor of analytical chemistry.

Purdue researchers will present a live demonstration of the miniature mass spectrometers Sunday, during the 57th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy. The meeting in Orlando, Fla., runs March 12-17.

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