Small-size Trace Lead(II) Ions Detection System for Drinking Water Monitoring
小型飲用水中鉛離子監測系統的開發

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Is your drinking water safe?
“The fear over tainted water in Hong Kong has thrown hundreds of residents' lives into chaos and left thousands more wondering if their water is safe to drink” – South China Morning Post.
- May cause cumulative poisoning toward infants, fetuses, and pregnant women.

Highly sensitive Pb(II) sensing system
- Using nanotechnology for fast optical sensing of Pb(II).
- Limit of detection (LOD) for Pb(II) can be as low as 0.011 ppb.

Sensing Device Suitable for Household
- Portable Pb(II) sensing device for household application.
- Ultra-high sensitivity for Lead ions detection in drink water: 10 times smaller than WHO suggested threshold (10 ppb).
- Real-time and fast detection in 10 minutes.

Tap Water Test
The Pb(II) concentration in this tap-water sample was determined to be 14 ppb.

Sensor only sensitive to Pb(II)
The selectivity of sensor toward Pb(II) was verified with 19 different ionic solutions.