Nanotechnology
Molecular Tagging (NMT)

- Target molecules are ionized and selected using standard ion selection techniques (e.g. IMS or FAIMS).
- The selected ions are mixed with specialized tags.
- Tagging allows for the ions to be counted individually with optical techniques.

Introduction to Ancon

- Developing new products for the trace detection of chemicals in vapors
- Individual molecules counted – giving unprecedented sensitivities
- Proprietary technology – increasing portfolio of patents in the US and UK
- Founded 2003 in Canterbury, England
- Funded through private capital and UK CDE and IRC contracts

Progress

- Ancon has been refining NMT technology for more than 20 years to reach the current level of sensitivity.
- The sensitivity improvement over time compared with sniffer dogs and alternative technologies is shown below.
- Consideration of the theory of the principle of detection suggests that there is still plenty of scope for further sensitivity improvements.
- Currently at TRL 5.

Results

- Examples of detected signals are shown for trinitrotoluene (TNT) and dinitrotoluene (DNT) at concentrations of 1 ppb.
- The concentration for ammonium nitrate (AN) is in the range 1 – 8 ppb.
- TNT recently detected at ppt level.

Interested in creating partnerships with established manufacturers of IMS or similar ion selecting technologies.

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