

PROBLEM

- Rapid and sensitive explosives detection is challenging
- Field techniques generally not quantitative
- Laboratory techniques have limited target analytes, which are substances whose chemical constituents are being identified and measured

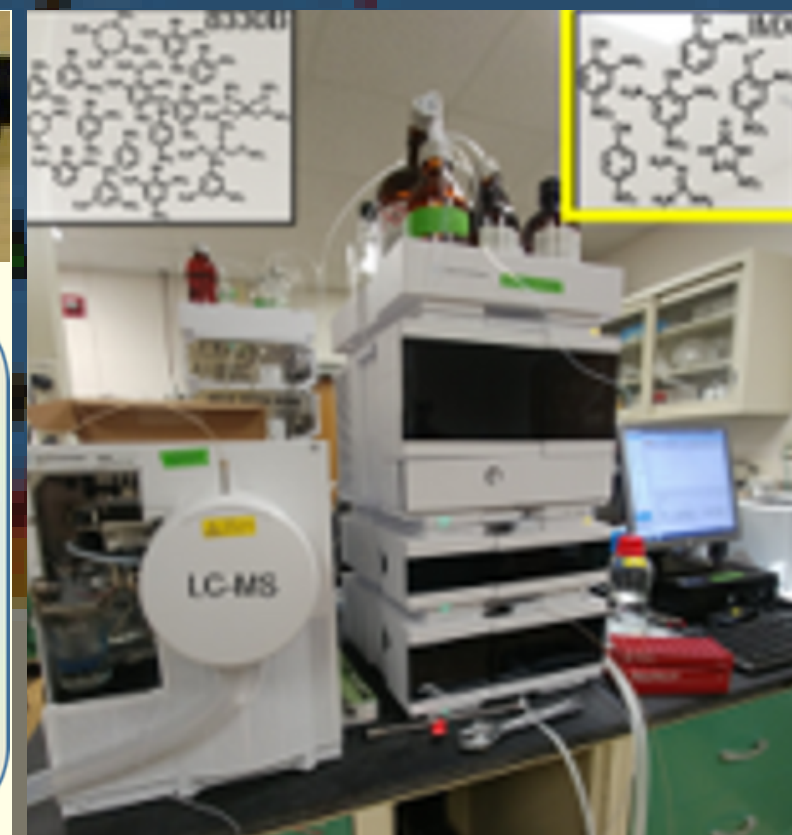
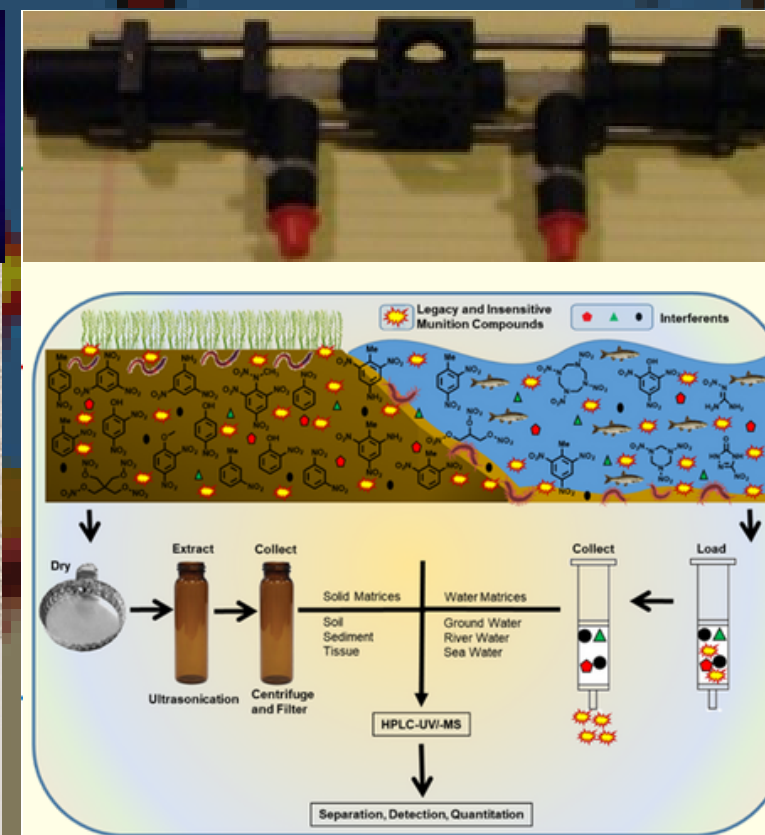
SOLUTION

- Development of rapid, sensitive and selective field portable techniques using unique spectroscopic methods
- Expansion and refinement of state-of-the-science laboratory based-detection methods

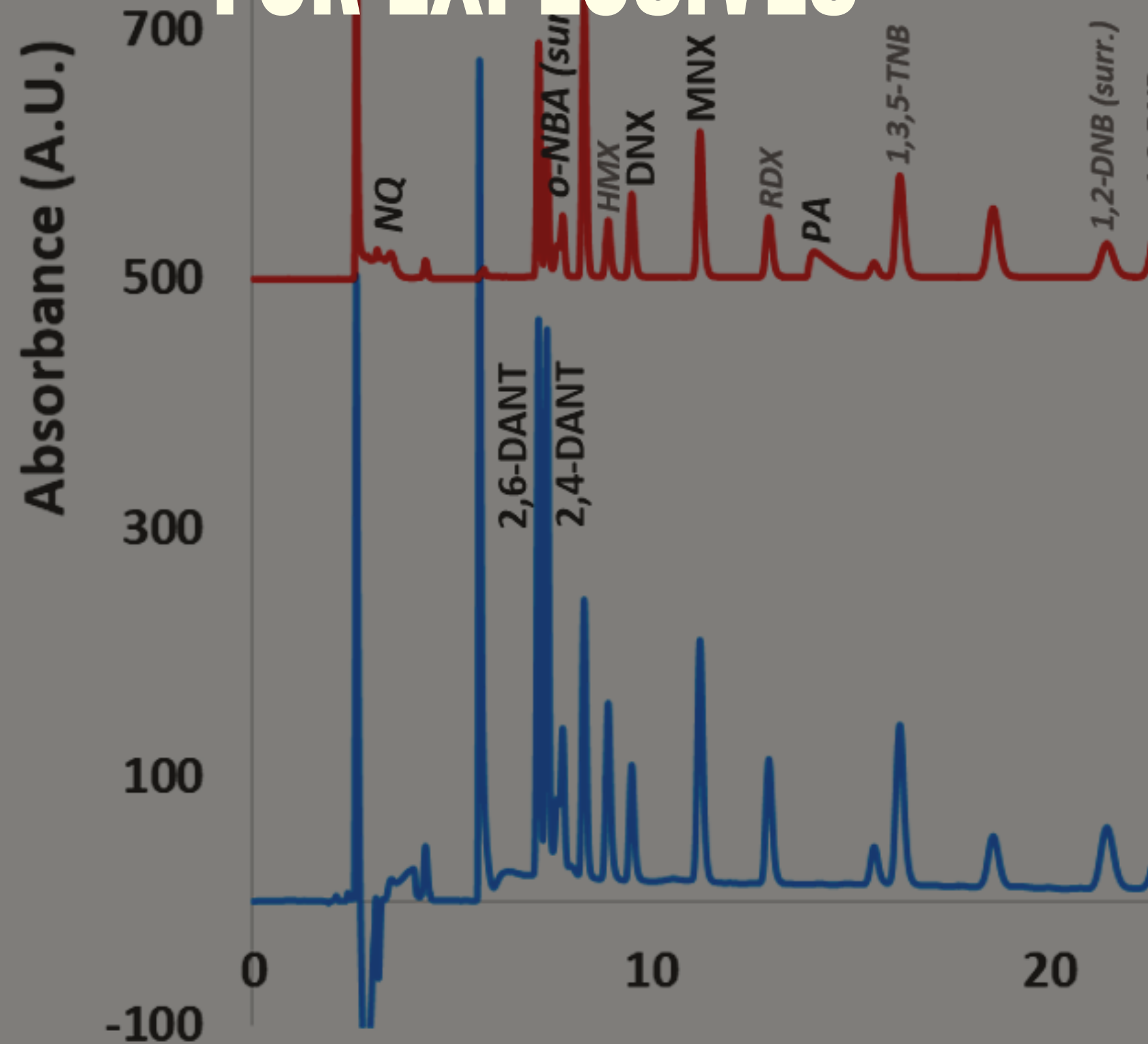
IMPACT

- Rapid, sensitive and selective field detection of explosives
- Broad range of explosives detection for forensic and fate investigations
- Complementary capabilities to existing techniques

ENVIRONMENTAL SENSORS FOR EXPLOSIVES



ENVIRONMENTAL SENSORS FOR EXPLOSIVES



APPLICATIONS

- Real- time detection of explosives in a variety of matrices and scenarios for threat response
- Forensic and fate and transport investigations of legacy and new insensitive munitions and degradation products
- Future extension to detect other classes of compounds in complex environmental matrices

STATUS

- Effort is starting its 3rd funding year in FY21
- Multiple operational variants of field portable detection instrument have been built, with further testing, optimization and extension under way
- Laboratory methods developed and optimized to increase number of analytes and include additional quality control parameters

BENEFITS

- Rapid, sensitive and selective field-portable explosives detection instrumentation
- Improved data quality for laboratory explosives detection
- Larger suite of target explosives detectable by advanced laboratory methods
- Understanding of environmental fate of explosives and their degradation compounds