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Identification of Fungicide –Thiram using SERS

INTRODUCTION

> Fungicides are used for high productivity in farming
> Retained fungicides in soil/water is harmful
> Existing detection methods are time consuming and sophisticated
> Surface-enhanced Raman spectroscopy (SERS) – high sensitivity, short detection time and nondestructive detection
> In the current study, Thiram has been detected using SERS with 10^3 enhancement

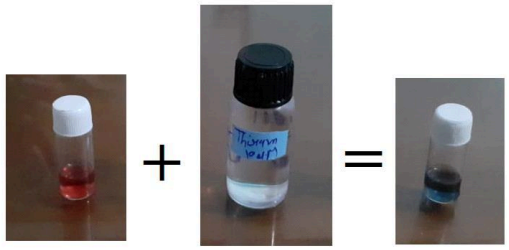
EXPERMIENTAL CONDITION

> Raman Spectrometer:
> Model: IndiRAM P785_Tracer
> Laser excitation source
  • Wavelength: 785 nm
  • Power: 360 mW
> Exposure time: 5 sec
> No of Acquisition: 5
> SERS: Liquid SERS

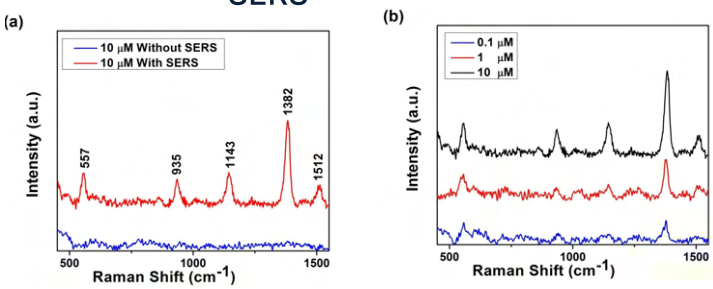
CONCLUSION

The vibration modes of Thiram were quickly identified by using SERS Technique.

RESULT & DISCUSSION



SERS

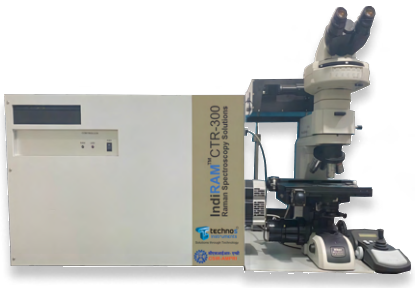


>SERS shown enhanced Raman Signal
>Detected minimum of 0.1 µM of Thiram on varying Concentration

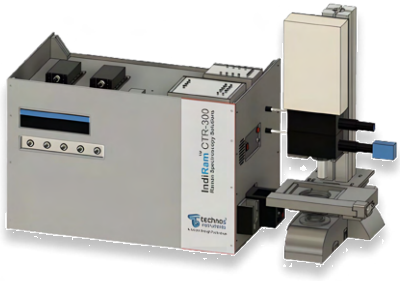
REFERENCES

1. T.C. Dao, T.Q.N. Luong, T.A. Cao, N.M. Kieu, Advances in Natural Sciences: Nanoscience and Nanotechnology, 10 (2019) 025012.
2. H. Pu, Z. Huang, F. Xu, D.-W. Sun, Food Chemistry, 343 (2021) 128548.

OUR PRODUCTS

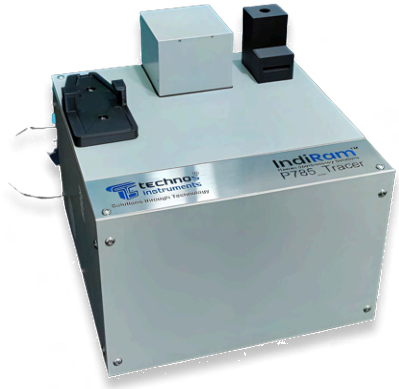


IndiRAM™ CTR Series



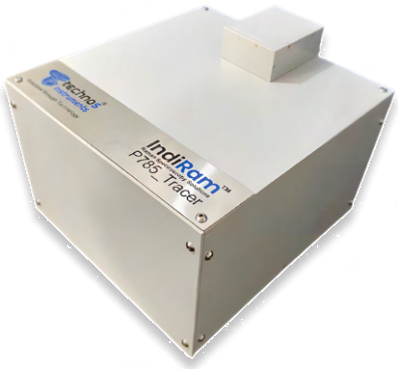
IndiRAM™ CTR for Quantum Characterizer

IndiRAM™ CTR Series Chiral Raman Spectrometer



IndiRAM™ Edu

IndiRAM™ CTR P-Series



IndiRAM™ Portable System

Diamond Detection System

IndiRAM™ Handy Series

IndiRAM™ CTR-Mini Series

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