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Title:Characterization of pesticide residue, Cis-permethrin by terahertz spectroscopy
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Abstract:The feasibility of terahertz (THz) spectroscopy as a potential pesticide residue analytical tool was evaluated by using cis-permethrin as the test compound. THz spectra were measured by fourier-transform spectroscope at the THz region, frequency range from 20 to 400 cm-1. Freeze-drying was effective to remove interference of water from samples. The absorption wave numbers of cis-permethrin were similar with or without the presence of biological matrix such as spinach, and other pesticide compound such as fludioxonil. The clay and emulsifier in the commercial formulation Adion, interfered with the absorption of cis-permethrin. Further works to determine the sensitivity and detection limit of the THz methodology are in progress.
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