

## [Determination of Residual Solvents in Pharmaceuticals by Thermal Desorption-GC/MS](#)

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### Abstract:

A novel method for the determination of residual solvents in pharmaceuticals by thermal desorption (TD)-GC/MS has been established. A programmed temperature pyrolyzer (double shot pyrolyzer) is applied for the TD. This method does not require any sample pretreatment and allows very small amounts of the sample. Directly desorbed solvents from intact pharmaceuticals (ca. 1 mg) in the desorption cup (5 mm x 3.8 mm i.d.) were cryofocused at the head of a capillary column prior to a GC/MS analysis. The desorption temperature was set at a point about 20 degrees C higher than the melting point of each sample individually, and held for 3 min. The analytical results using 7 different pharmaceuticals were in agreement with those obtained by direct injection (DI) of the solution, followed by USP XXIII. This proposed TD-GC/MS method was demonstrated to be very useful for the identification and quantification of residual solvents. Furthermore, this method was simple, allowed rapid analysis and gave good repeatability.

\* Excerpted from online journal website (Click the title)

### Frontier Labs Products used:

Double-Shot Pyrolyzer PY-2020D