Abstract:
Thermal desorption (TD) techniques followed by capillary GC/MS were applied for the analysis of residual solvents in bulk pharmaceuticals. Solvents desorbed from samples by heating were cryofocused at the head of a capillary column prior to GC/MS analysis. This method requires a very small amount of sample and no sample pretreatment. Desorption temperature was set at the point about 20°C higher than the melting point of each sample individually. The relative standard deviations of this method tested by performing six consecutive analyses of 8 different samples were 1.1 to 3.1%, and analytical results of residual solvents were in agreement with those obtained by direct injection of N,N-dimethylformamide solution of the samples into the GC. This novel TD/GC/MS method was demonstrated to be very useful for the identification and quantification of residual solvents in bulk pharmaceuticals.

Frontier Labs Products used:
Double-shot pyrolyzer