

**EXTRACT-FREE DIRTY SAMPLE INTRODUCTION (DSI) DEVICE (CHROMATOPROBE)  
FOR MASS SPECTROMETRY SAMPLING AND GAS CHROMATOGRAPHY ANALYSIS**

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We have designed, built and tested a novel Direct Sample Introduction (DSI) device that enables new methods of sample introduction for GC and GC/MS analysis. While conventional injection methods rely on syringe based liquid dispensing inside the GC injector, our device enables sample introduction and controlled vaporization in a miniature test tube vial that is inserted into the standard GC injector. The device serves for two major applications, each with several advantages.

**A. Direct Sample Introduction for Mass Spectrometry.**

This new DSI device effectively transforms a conventional GC injector (a second injector in a GC/MS) followed by a short capillary column, into a very cost-effective alternative to the standard direct insertion probe devices.

**B. Extract-Free Dirty Sample Introduction for GC and GC/MS Analysis.**

This is a new and exciting capability with a wide range of applications. It is based on intra-GC injector thermal vaporization or extraction of the semi-volatile compounds while retaining the non-volatile residue inside the disposable sample container test tube.

This poster will show how very dirty samples can be introduced, including “sludge” such as urine, blood (plasma or serum), solutions with non-volatile compounds, liquefied vegetable, fruit or meat (through their blending with acetone, ethylacetate, isopropanol or other solvents), milk, crude oil etc