

(ATR) FOURIER-TRANSFORM INFRARED

For the determination of equilibrium constants, we will be using attenuated total reflectance (ATR) fourier-transform infrared (FT-IR) spectroscopy. The ATR FT-IR optics bench used for data collection will be the Heated Golden Gate ATR accessory with a working temperature range up to 300°C and pressure rating for the tungsten carbide embedded diamond being 15,000psi. We have manufactured (in-house) a high pressure stainless steel reactor that will contain the sample and high pressure gas. The reactor contains a thermocouple epoxied into place with J-B Weld cold weld epoxy, which has a rating of up to 600°F and 3960 psi.

