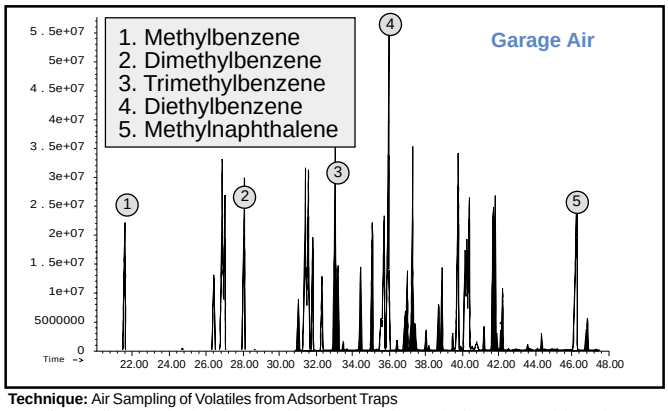
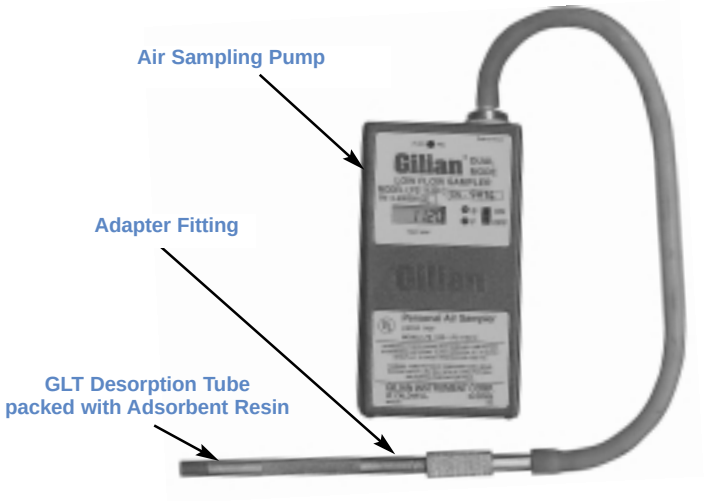
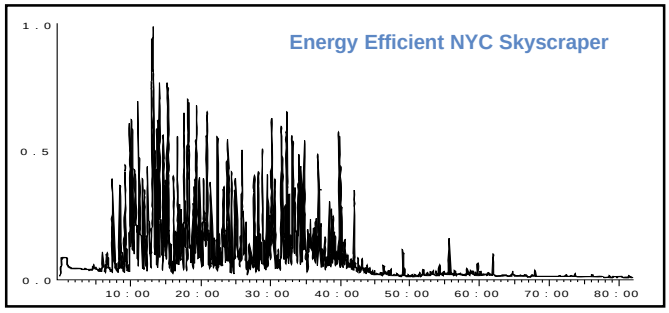
Air Sampling - Environmental Monitoring

The Volatiles present in the environmental air can be readily analyzed using the Short Path Thermal Desorption System. The air to be analyzed is pumped through a GLT desorption tube which has been previously packed with an adsorbent resin such as Tenax.Any of a wide variety of small air pumps (vacuum) that are commercially available can be used to pump the air through the desorption tube.

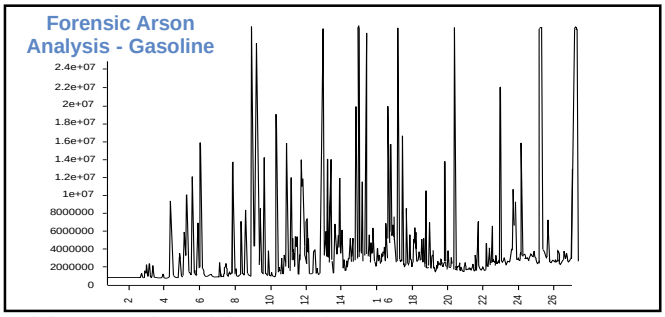


Technique: Air Sampling of Volatiles from Adsorbent Traps
Sample: A 70 liter sample of air from a residential garage (December) was pumped through a Tenax GLT desorption trap.
Thermal Desorption: Block temperature: 250°C, Purge flow:2.0 ml/min He,
Desorption time: 10.0 min. Initial column trap temperature: -40°C
Column: DB-5, 25 meter x 0.25 mm I.D., 0.25 u film, -40° to 280°C at 10°/min.





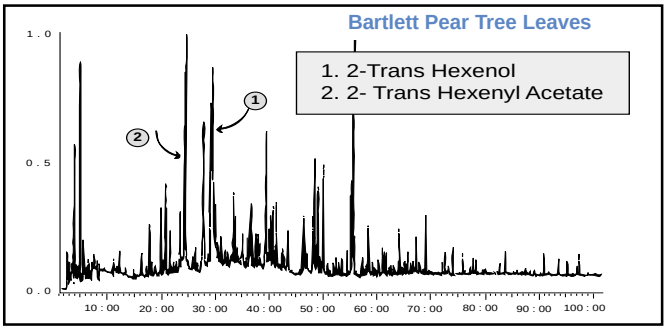
Technique: Air Sampling of Volatiles from Adsorbent Traps
Sample: A 100 liter sample of air from a New York City Energy Efficient Skyscraper was pumped through a Tenax GLT desorption trap. Data Courtesy CAFT Rutgers Univ.
Thermal Desorption: Block temperature: 250°C, Purge flow:2.0 ml/min He,
Desorption time: 10.0 min. Initial column trap temperature: -40°C
Column: DB-5, 25 meter x 0.25 mm I.D., 0.25 u film, -40° to 40° at 10°/min, 40° to 280° at 4°/min



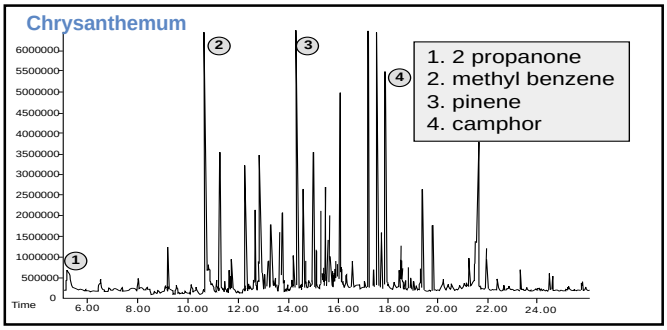
Technique: Air Sampling of Volatiles from Adsorbent Traps
Sample: A 1.0 liter sample of air from a container spiked with gasoline was pumped through a Tenax GLT desorption trap. Data Courtesy NJSP.
Thermal Desorption: Block temperature: 250°C, Purge flow: 6.0 ml/min He,
Desorption time: 10.0 min. Initial column trap temperature: -40°C
Column: SPB-1, 30 meter x 0.75 mm I.D.,1.0 u film,-40° to 250°C at 12°/min.

Air Sampling from Plants and Commercial Products

Many plants and animals as well as commercial products may produce odors or volatile emissions which can be trapped on adsorbent traps and then analyzed via the Short Path Thermal Desorption System. The air from the samples or materials is passed through the GLT desorption tube which has been packed with Tenax or some other adsorbent resin.



Technique: Air Sampling of Volatiles from Adsorbent Traps
Sample: A 70 liter sample of air from leaves of a Bartlett Pear Tree were pumped through a Tenax GLT desorption trap using a portable pump. Data Courtesy CAFT, Rutgers Univ.
Thermal Desorption: Block temperature: 200°C, Purge flow10.0 ml/min He,
Desorption time: 10.0 min. Initial column trap temperature: -40°C
Column: DB-1, 60 meter x 0.32 mm I.D., 0.25 u film, -20° to 280°C at 10°/min.



Technique: Dynamic Headspace Purging
Sample: The volatiles from a Chrysanthemum flower in a Wheaton Purge and Trap Apparatus were trapped on Tenax traps.
Thermal Desorption: Block temperature: 200°C, Purge flow1.5 ml/min He,
Desorption time: 5.0 min. Initial column trap temperature: -40°C
Column: DB-5, 25 meter x 0.25 mm I.D., 0.25 u film, -40° to 280°C at 10°/min.