

# Fast & Easy Enrichment of Gasoline in Burnt Materials using MonoTrap

## Materials



- |             |         |
|-------------|---------|
| 1. Wood     | 12.75 g |
| 2. Soil     | Some    |
| 3. Water    | 200 mL  |
| 4. Gasoline | 10 mL   |

## Pretreatment Procedures

Burn wood

Put the wood on the soil, pour gasoline over the wood and burn



Extinguish

Extinguish the fire with water



After Burning

Collect the wood, water and soil separately after extinguishing the fire



Passive Sampling  
MonoTrap RCC18 × 2pcs  
RSC18 × 2pcs

Leave for 1 hour at room temperature



Rinse

Take the MonoTrap out after sampling. Rinse lightly with pure water to remove soil and dirt from the surface



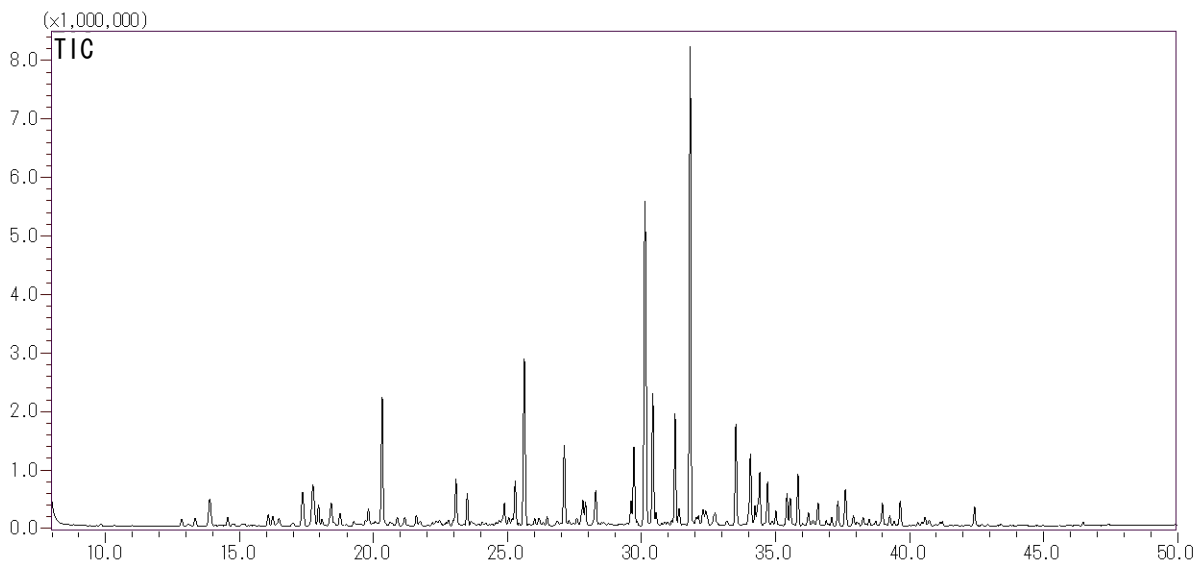
Solvent Extraction

Add 200µL acetone. Sonicate for 5 minutes

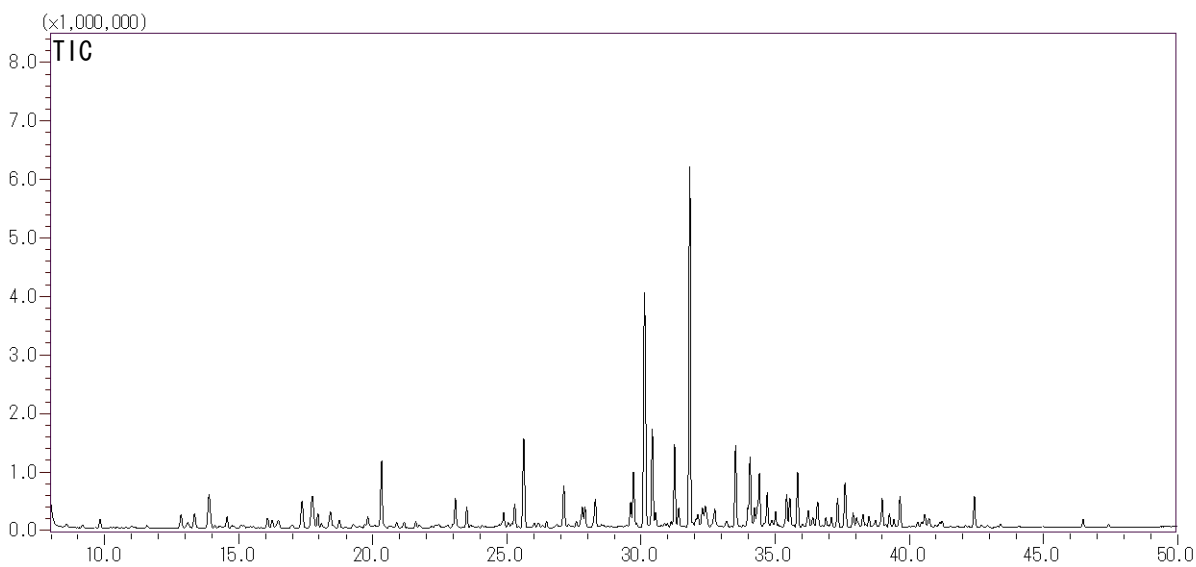


GC/MS

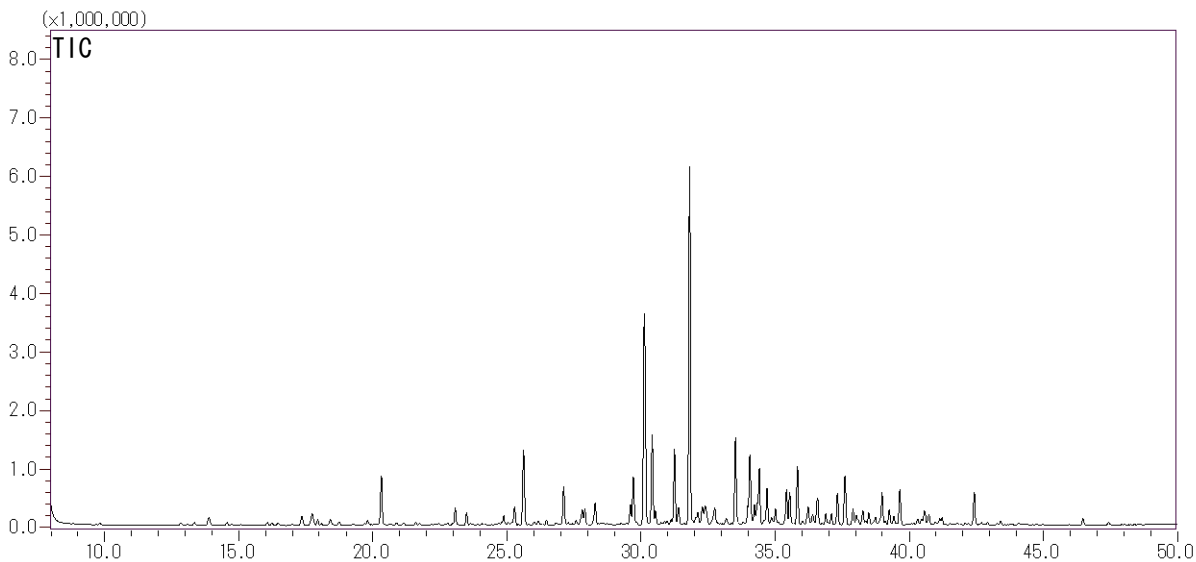
### 1. Wood (RCC)



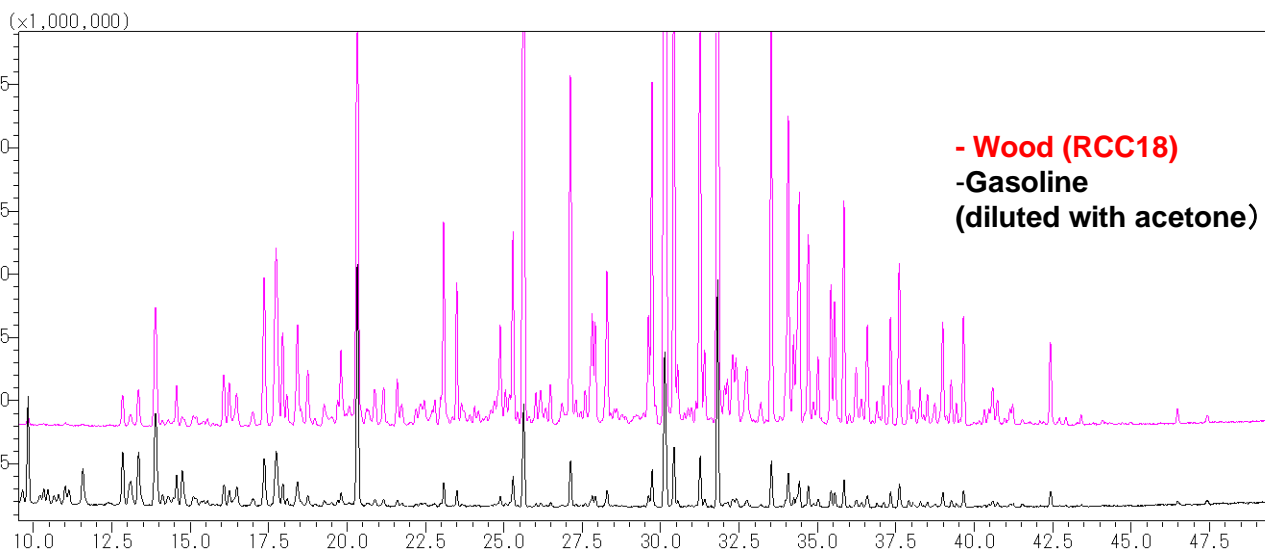
### 2. Water (RCC)



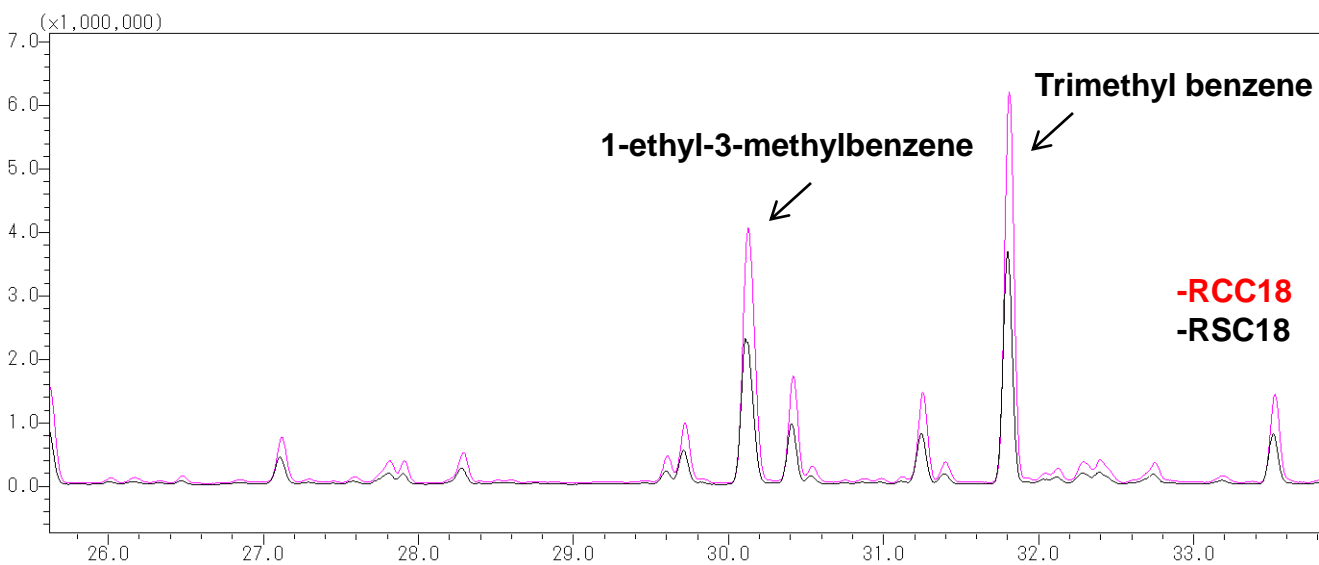
### 3. Soil (RCC)



4. Comparison with Gasoline



5. Comparison between RCC & RSC

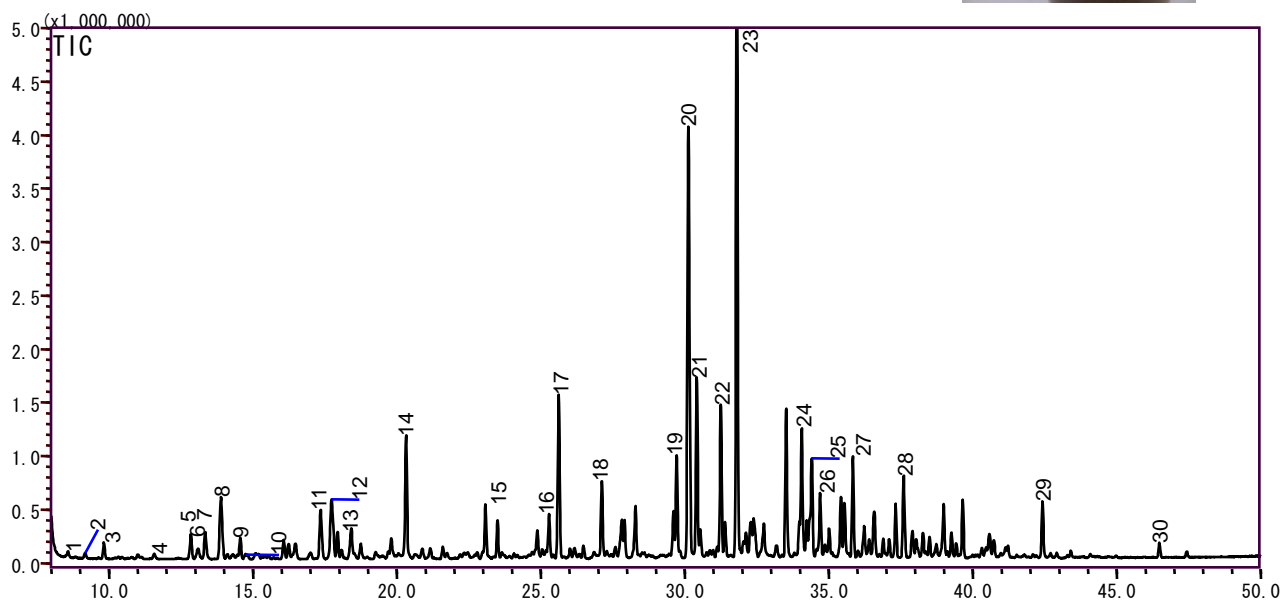


Compounds were detected in the water samples with higher sensitivity on MonoTrap rods containing activated carbon.



## 5. Compounds in Gasoline

Sample: Soil



- |     |                     |     |                             |
|-----|---------------------|-----|-----------------------------|
| 1.  | 2-Methylpentane     | 16. | Ethylbenzene                |
| 2.  | 3-Methylpentane     | 17. | m,p-Xylene                  |
| 3.  | Hexane              | 18. | o-Xylene                    |
| 4.  | Methylcyclopentane  | 19. | Propylbenzene               |
| 5.  | 2-Methylhexane      | 20. | Ethylmethylbenzene          |
| 6.  | 2,3-Dimethylpentane | 21. | Trimethylbenzene            |
| 7.  | 3-Methylhexane      | 22. | Ethylmethylbenzene          |
| 8.  | Trimethylpentane    | 23. | Trimethylbenzene            |
| 9.  | Heptane             | 24. | Propyltoluene               |
| 10. | Benzene             | 25. | Cymene                      |
| 11. | Trimethylpentane    | 26. | Indane                      |
| 12. | Trimethylpentane    | 27. | Cymene                      |
| 13. | 2-Methylheptane     | 28. | 1-Ethyl-3,5-dimethylbenzene |
| 14. | Toluene             | 29. | Naphthalene                 |
| 15. | 2-Methyloctane      | 30. | 1-Methylnaphthalene         |

### GC Conditions

**System** : GC/MS  
**Column** : InertCap Aquatic  
 0.25 mm I.D. x 60 m df = 1.00  $\mu$ m  
**Col. Temp.** : 40° C (5 min) - 4° C/min - 220° C (6 min)  
**Carrier Gas** : He 1mL/min  
**Injection** : Split 1:50  
 220° C  
**Detector** : MS Scan (30-600 m/z)

**Sample Size** : 1  $\mu$ L