

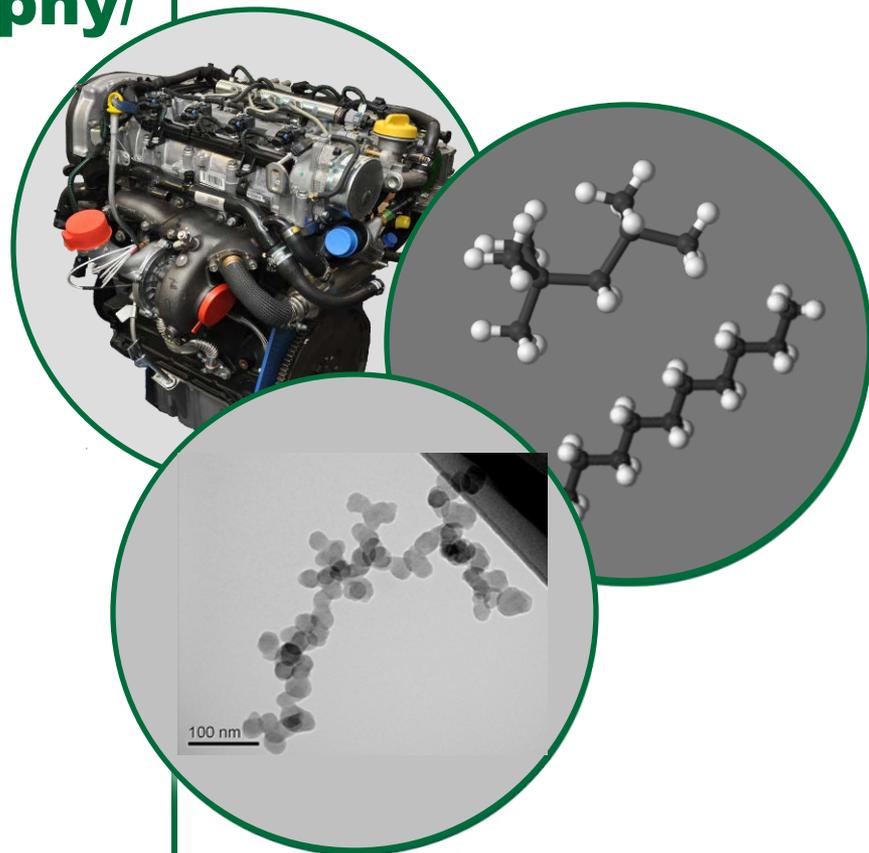
Poster P-15

Chemical Analysis of Soot using Thermal Desorption/ Pyrolysis Gas Chromatography/ Mass Spectrometry

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- Researchers characterizing the “soft” part of PM for years
 - * Solvent extraction methods adopted from ambient PM analysis
 - * Thermo-optical methods = one number; method-specific bias
 - * “Never the ‘tween shall meet” thermal mass >> solvent mass
- ORNL has been adopting more direct methods
 - * Accelerated microwave solvent methods
 - * Introducing the volatile fraction into GC with new tool
- Newly identified compounds found in all engine PM
 - * Abundant in EGR Cooler deposit ≈20% of “SOF”
 - * May be critical to soot oxidation/formation

