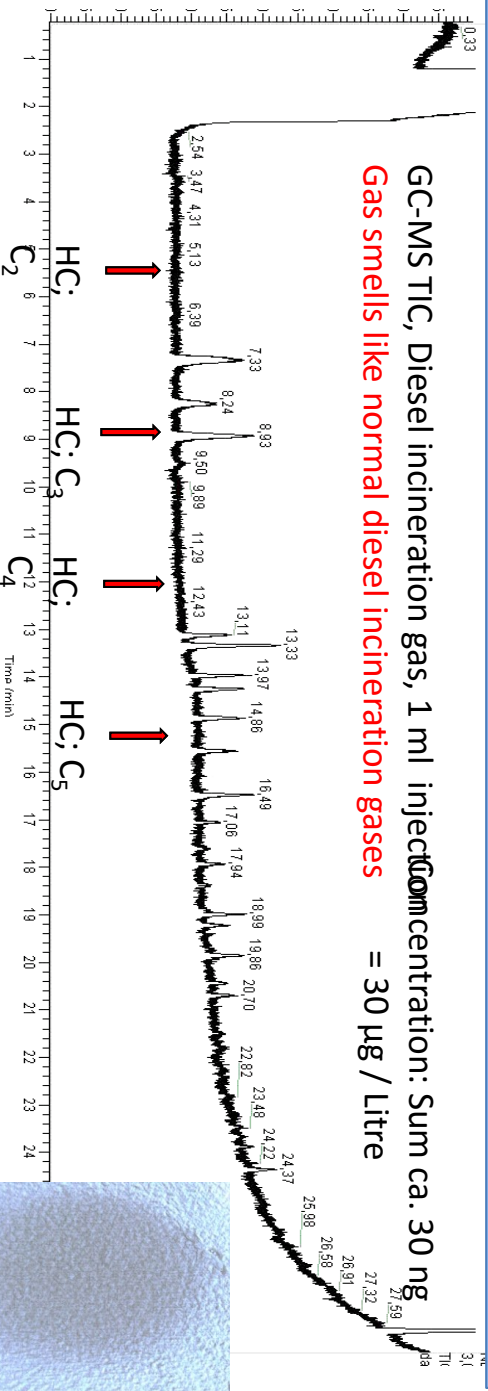
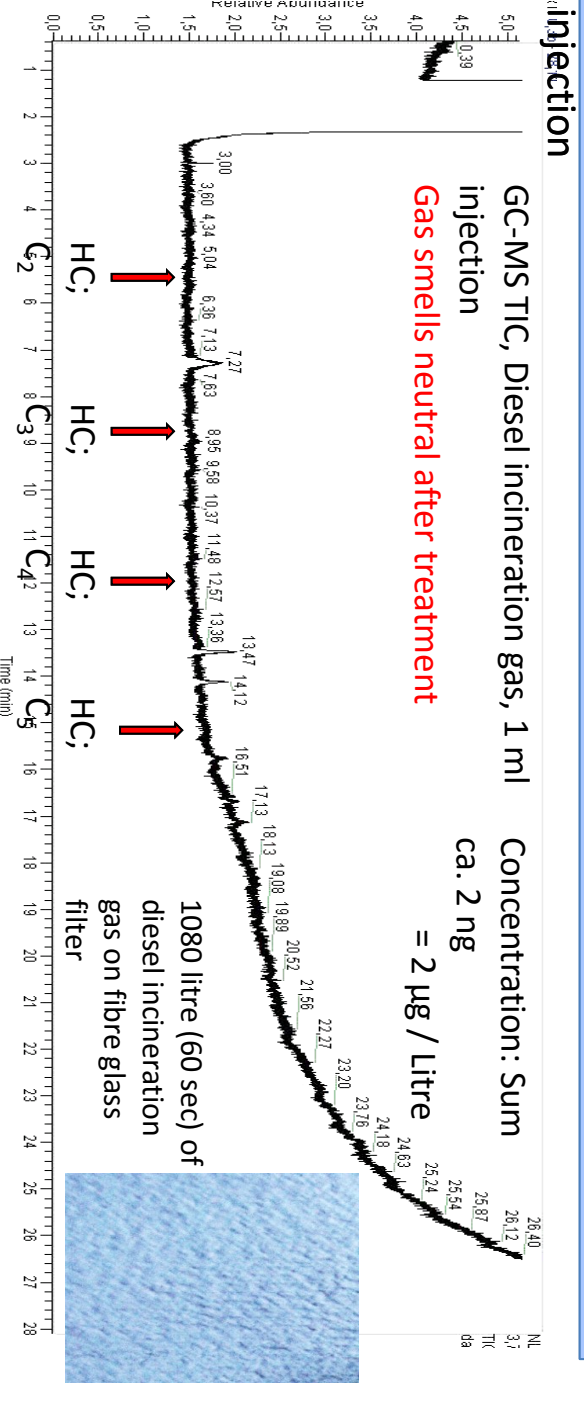


GC-MS TIC, Diesel incineration gas **from original Jetta**, 1 ml injection

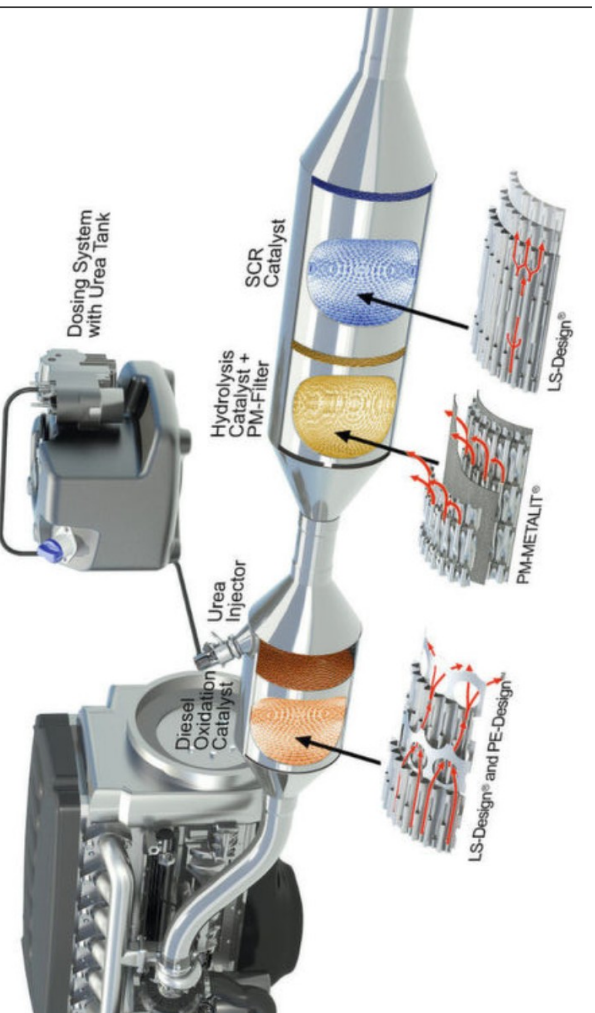


1080 litre (60 sec) of diesel incineration gas on fibre glass filter

GC-MS TIC, Diesel incineration gas from Jetta **with H<sub>2</sub> treatment**, 1 ml injection



Modern incineration system of cars  
 not 100% efficient  
 costly and complicated

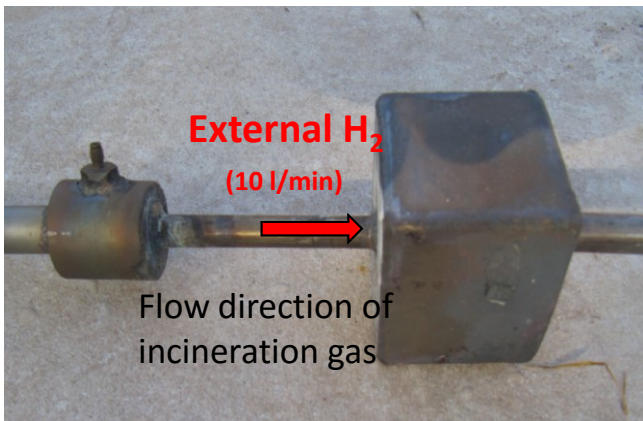


New incineration system  
of cars 100% efficient  
cheap & simple

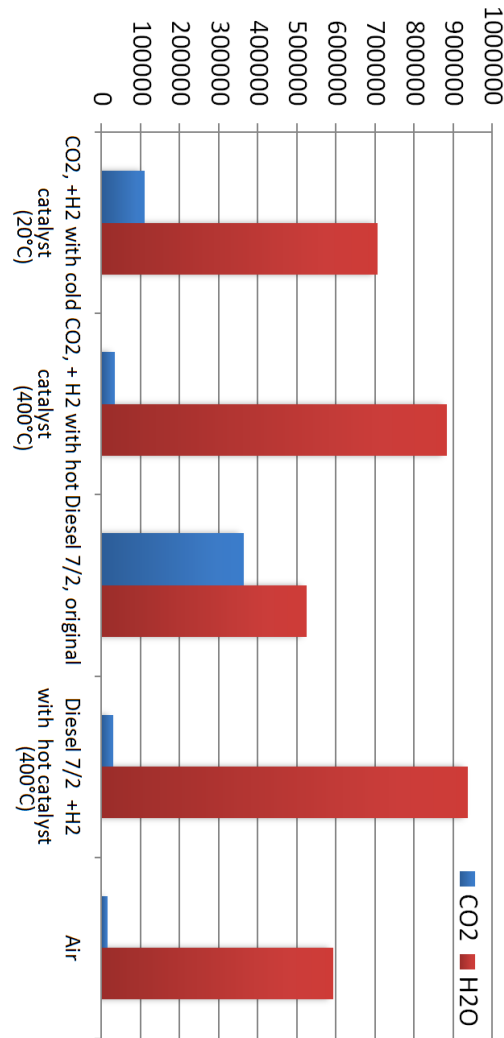
Incineration gas treated with H<sub>2</sub>  
at 590°- 400°C

Flow of H<sub>2</sub> (10L/min)  
contact time 0.02 sec.

Field-Experimental set up

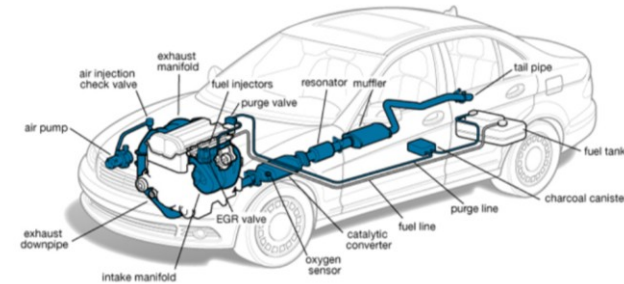


### Labor Experiment results



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### Actual problem with incineration gas



### Chemical description of incineration

Theoretical : C<sub>n</sub>H<sub>n</sub> + O<sub>2</sub> >> CO<sub>2</sub> + H<sub>2</sub>O

In practice: C<sub>n</sub>H<sub>n</sub> + O<sub>2</sub> >> CO<sub>2</sub> + H<sub>2</sub>O + NO<sub>x</sub>  
+ (particle soot)

### Problem of practical incineration:

formation of hydrocarbons (HC), NO & NO<sub>2</sub>  
→ emission of NO<sub>x</sub>, HNO<sub>3</sub>, HNO<sub>4</sub>  
and particles as dust

### Resulting Problem from NO<sub>x</sub> :

Foundation of Ozone at ground level  
→ Smog due to photochemical reactions  
→ **respiratory and further disease**

