

Source Measurements with ePTOF and MS mode



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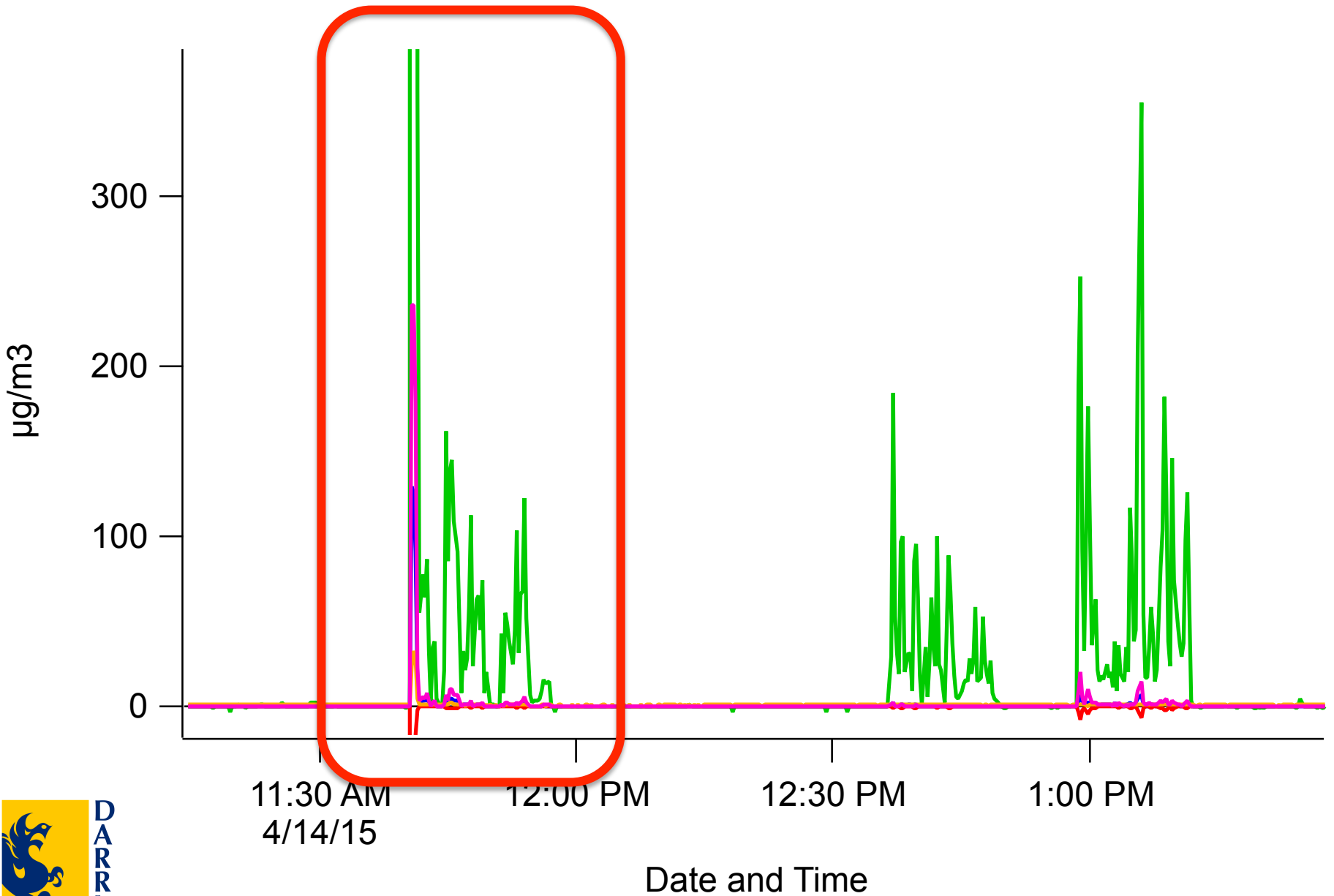
Drexel University

Source measurements from trash and ag burning in Nepal 4/2015

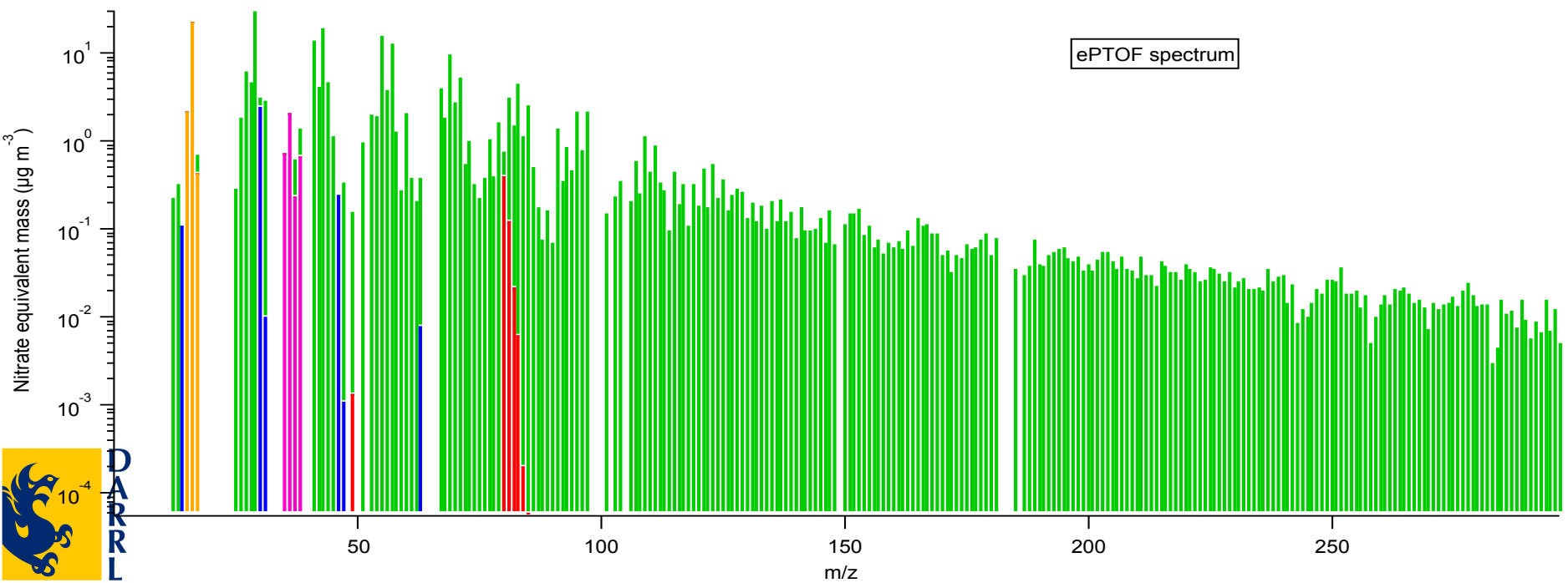
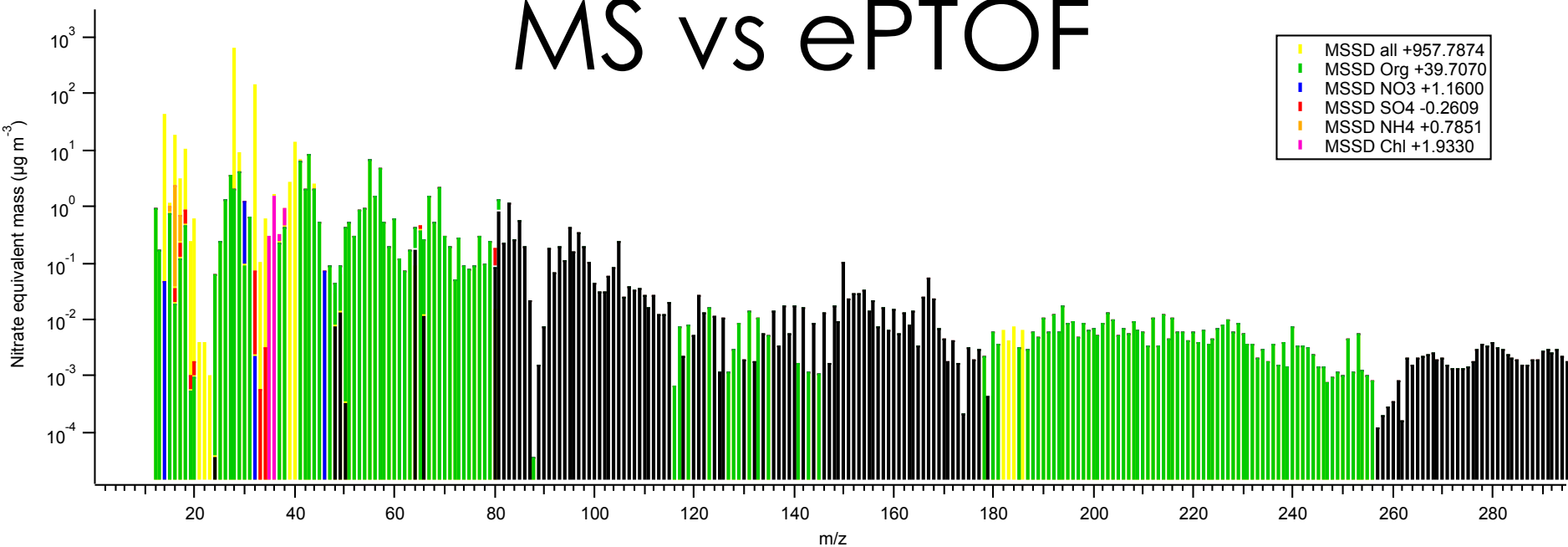
- Instrument: mini-AMS (like ToF-ACSM, but with sizing and ePTOF)
- Procedure: Instrument was not powered at night, so pump down in morning
- **Important Notes:**
 - mAMS has higher AB,
 - lack of overnight power means higher background,
 - source measurements were often several hundred $\mu\text{g}/\text{m}^3$



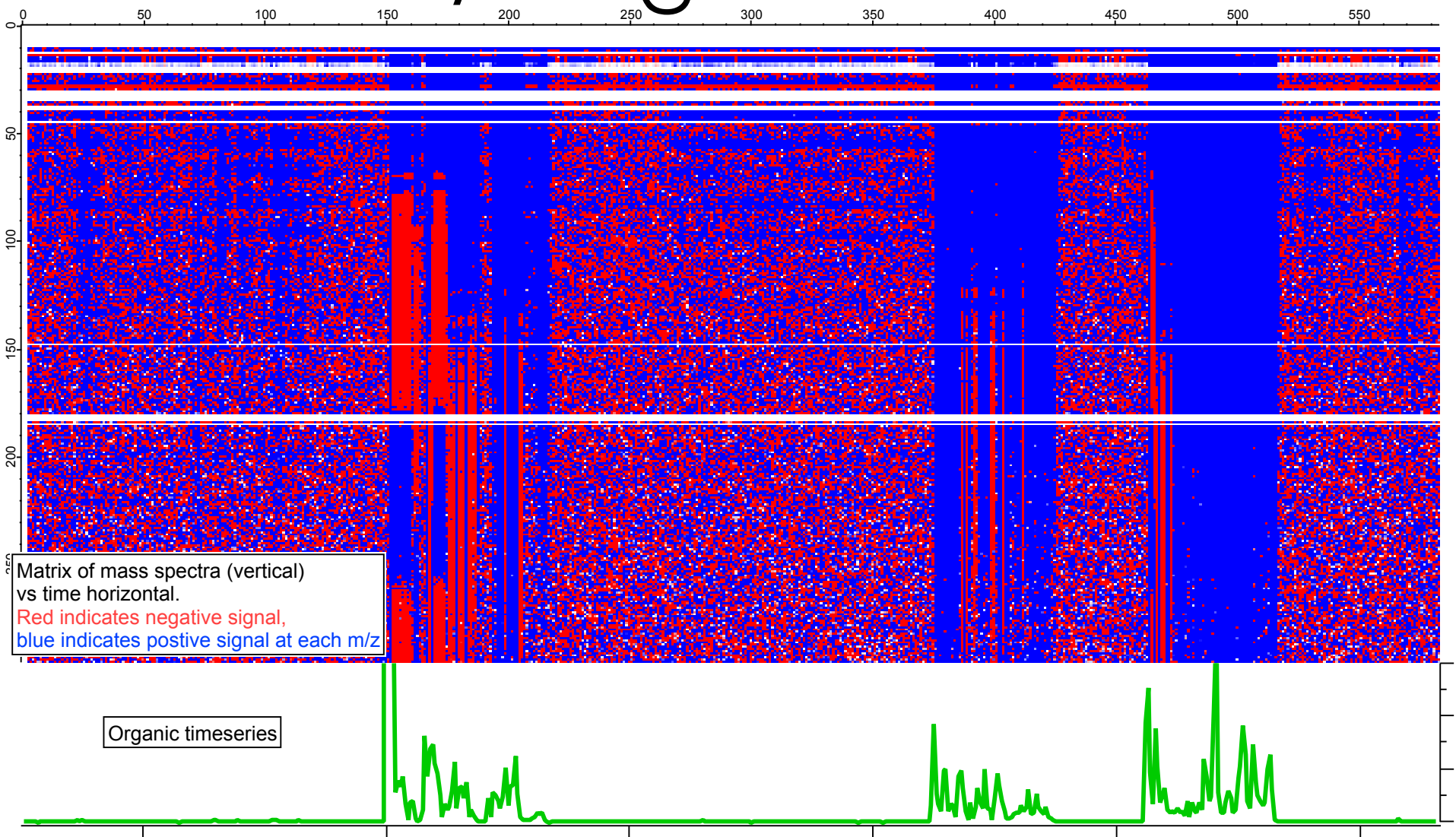
Trash Burning



MS vs ePTOF

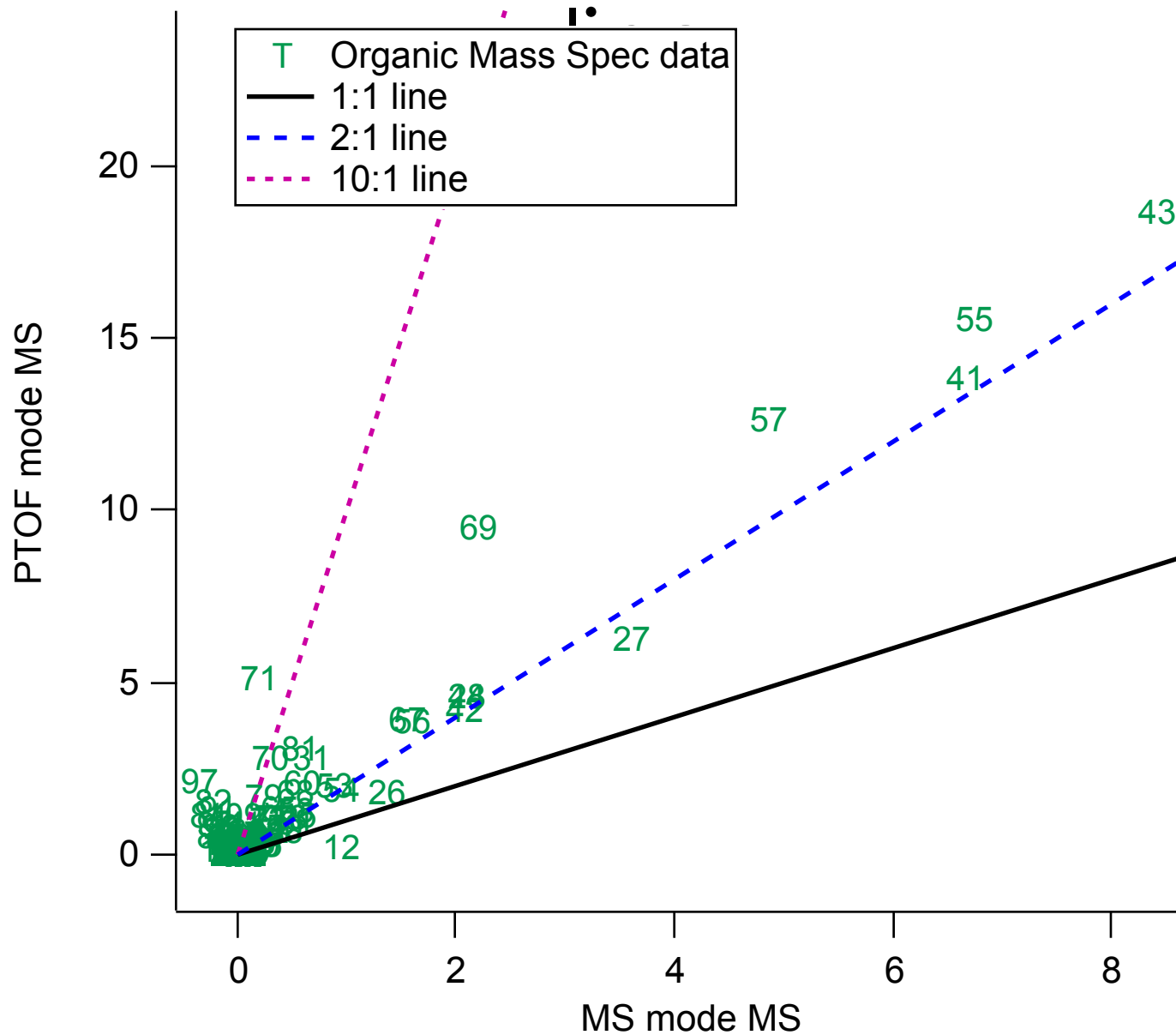


Positive / Negative MS Matrix

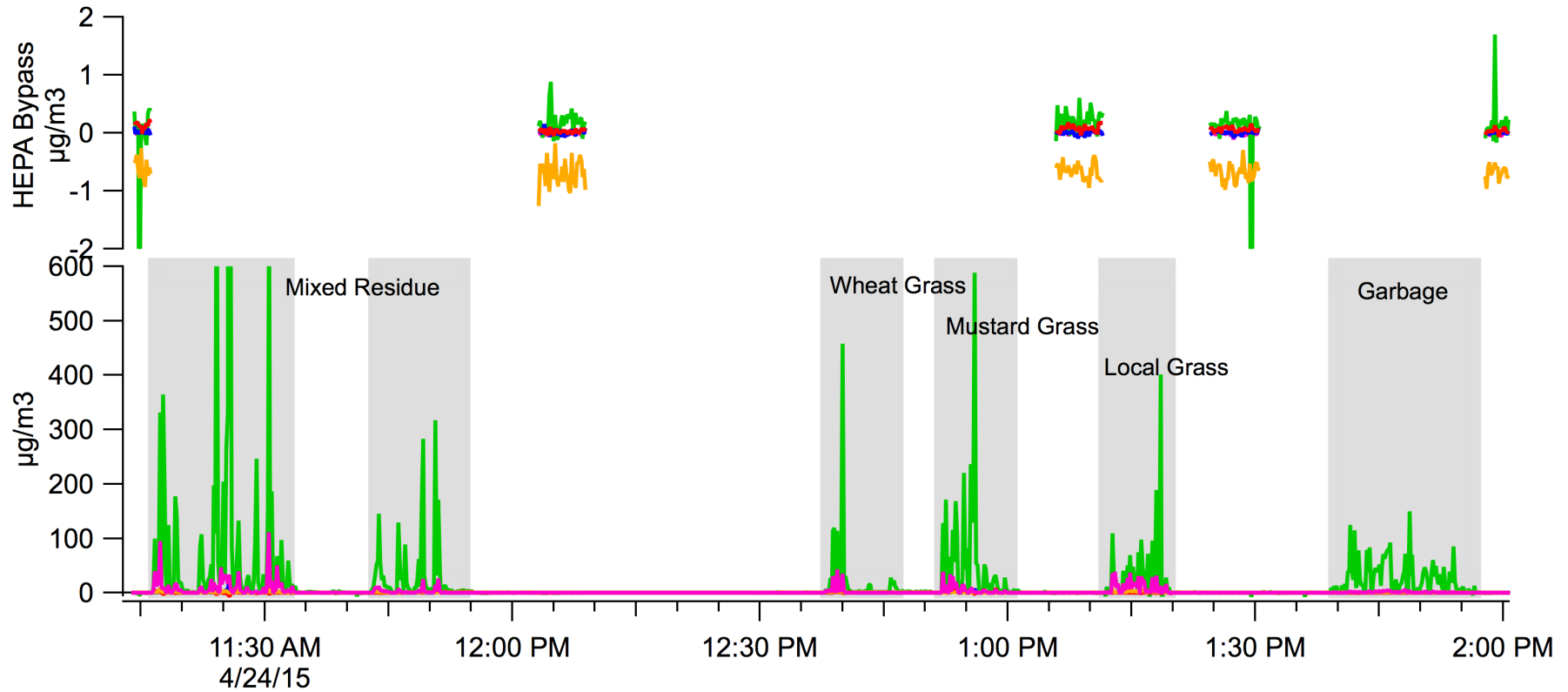


DARRL

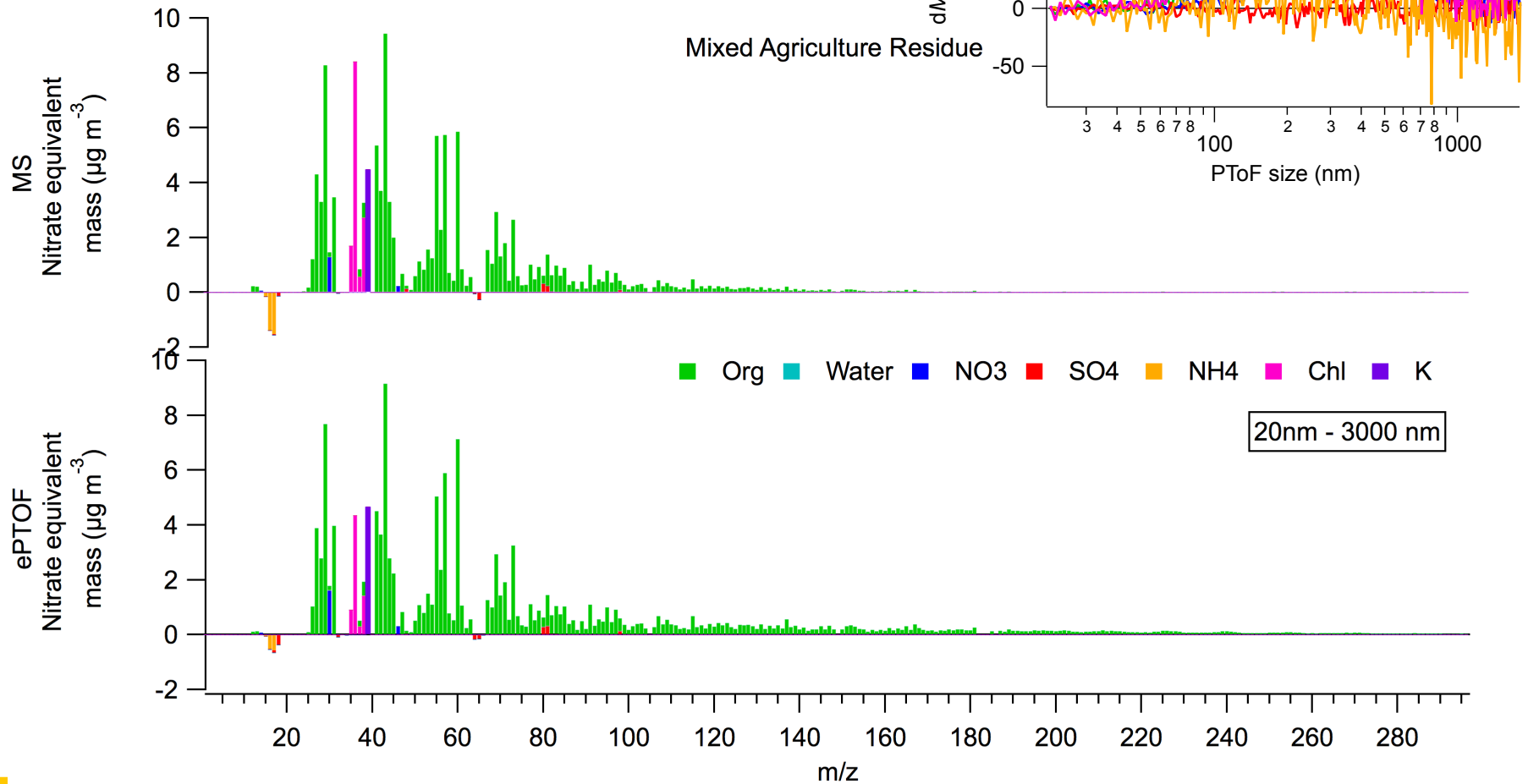
Scatter – high signal m/z lie on 2:1



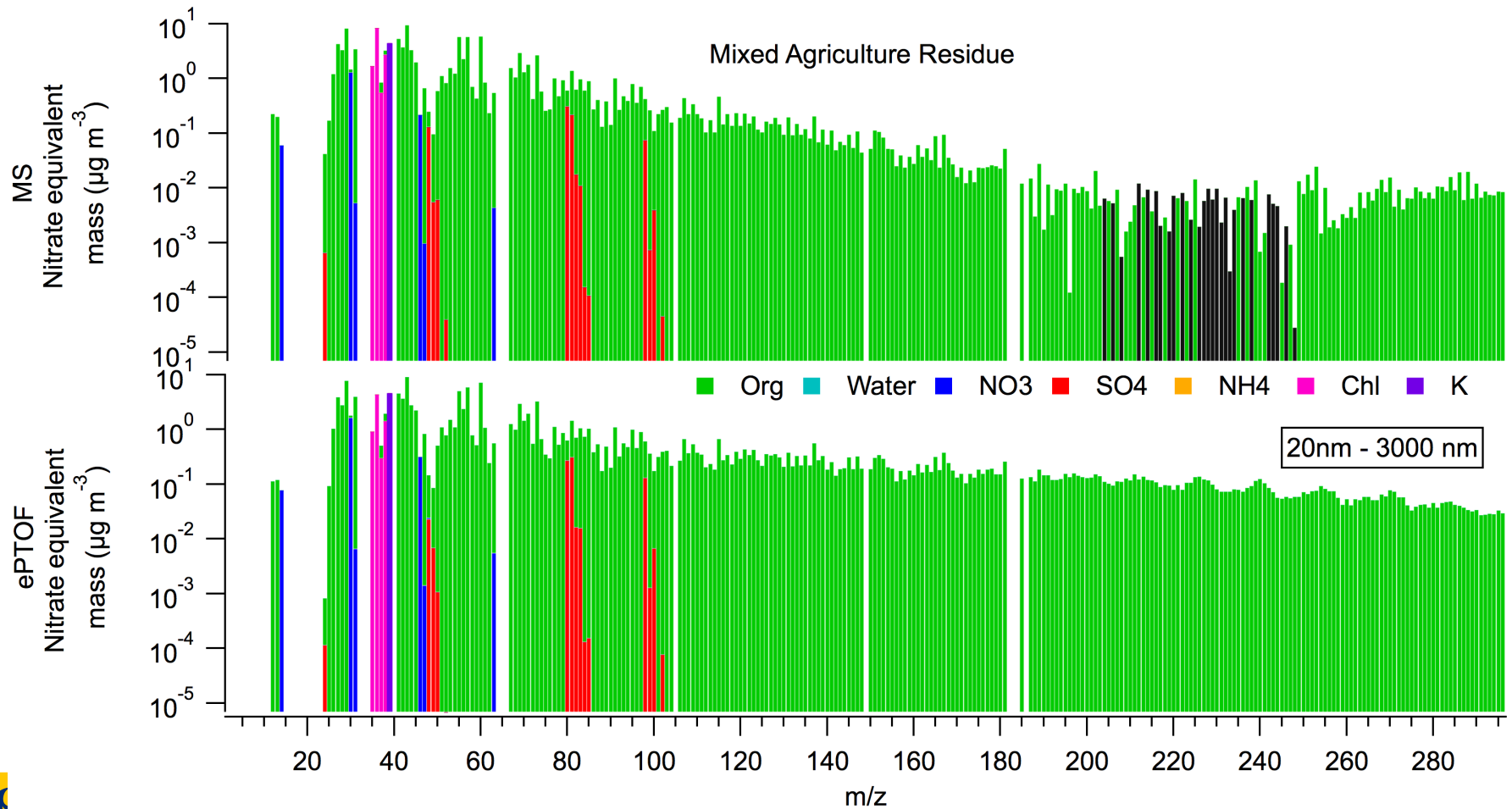
AG Burning



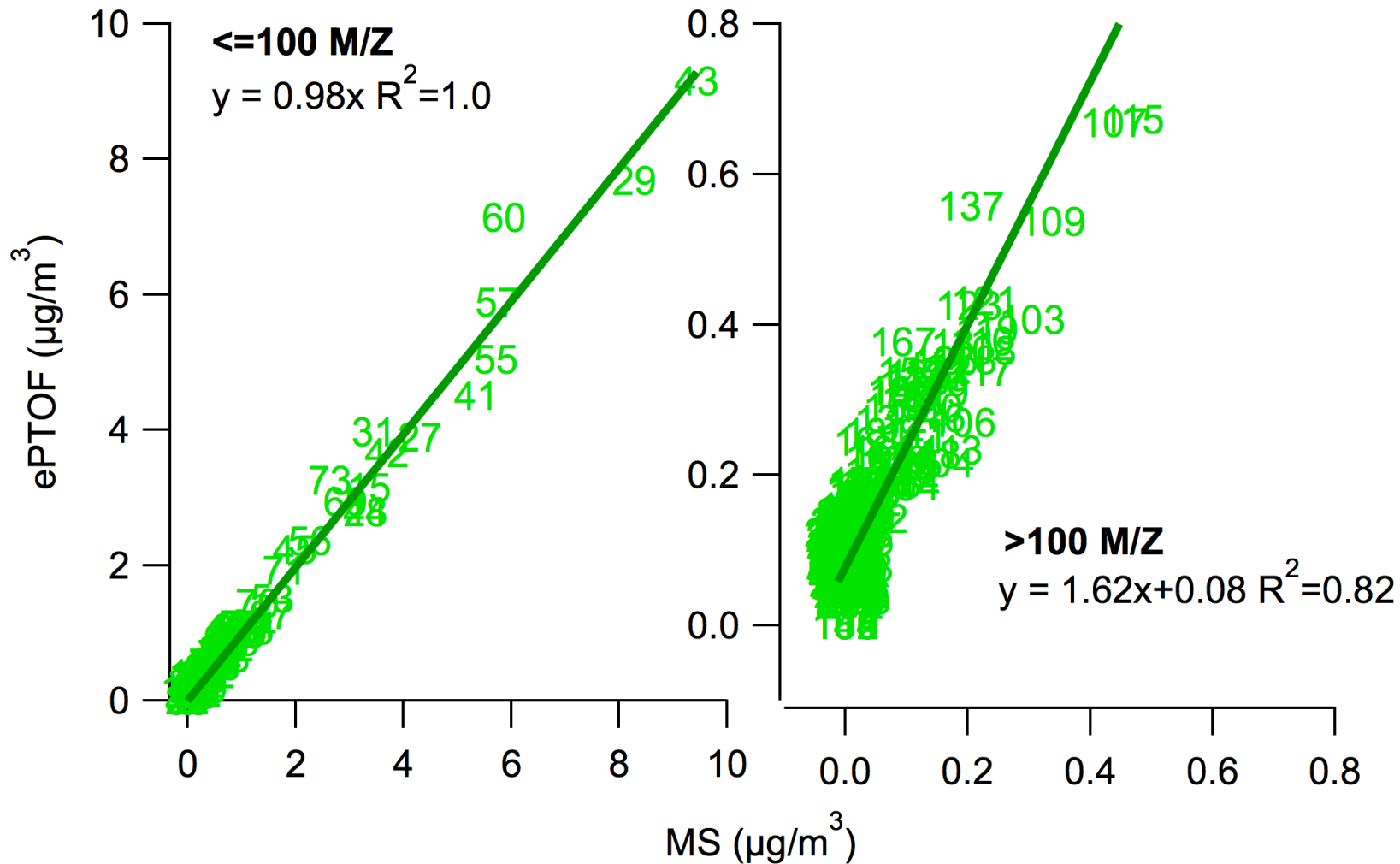
Mixed Fuel



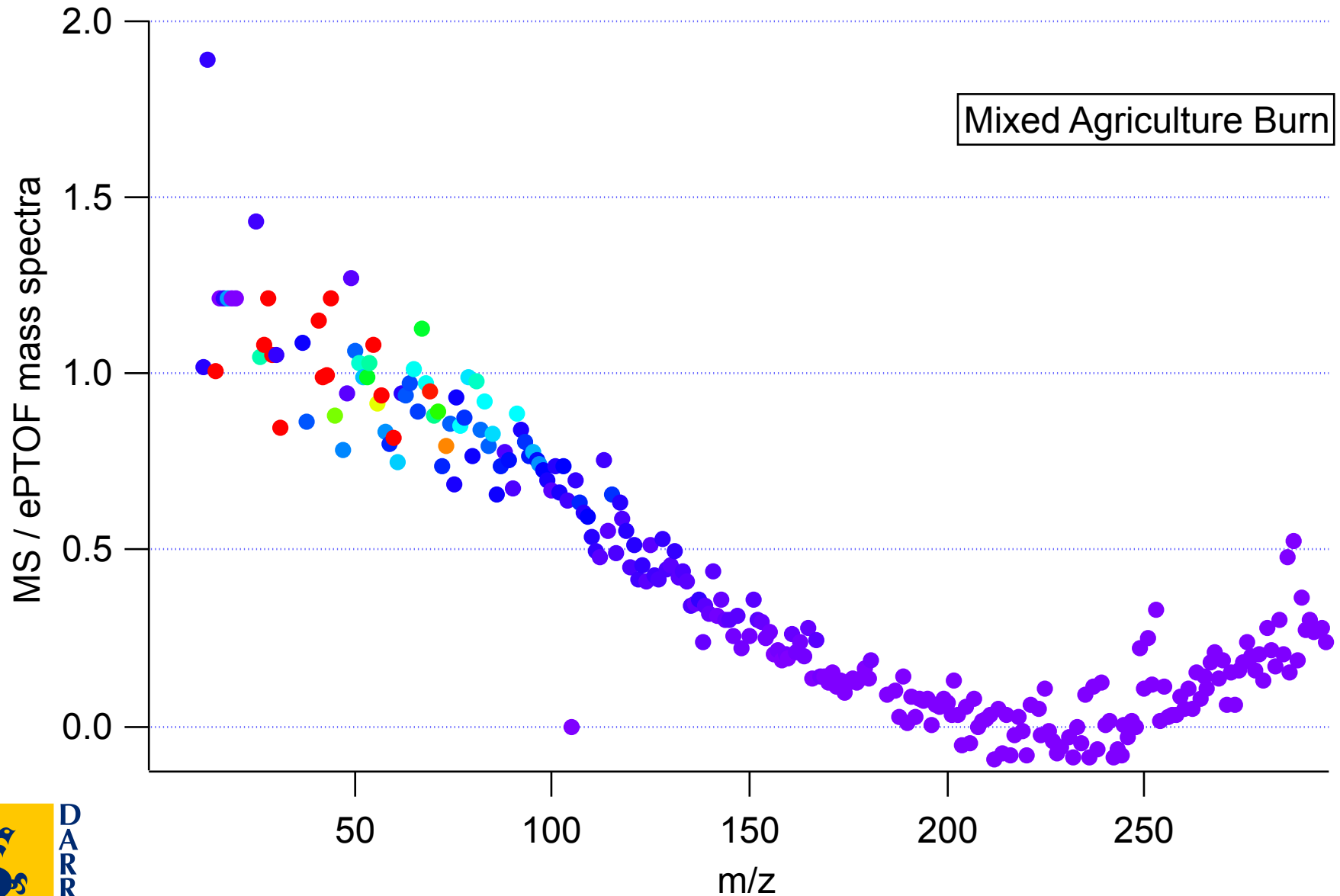
Mixed Fuel



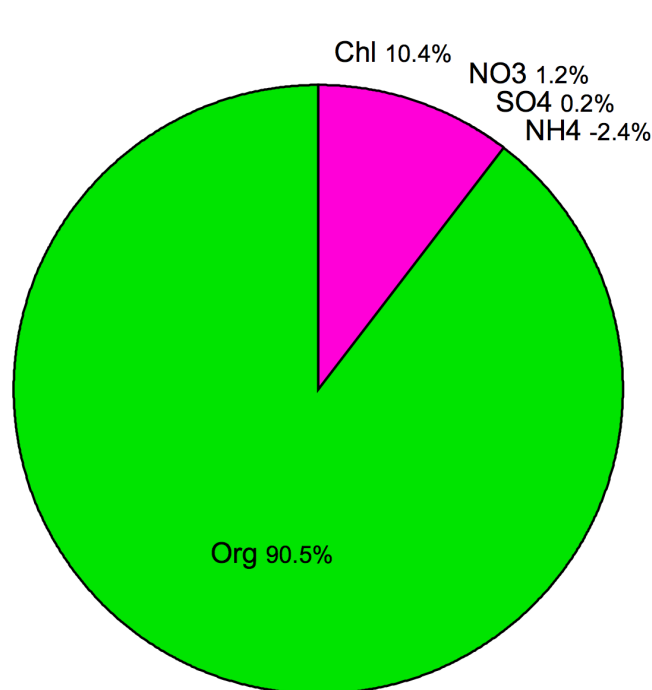
MS Scatter



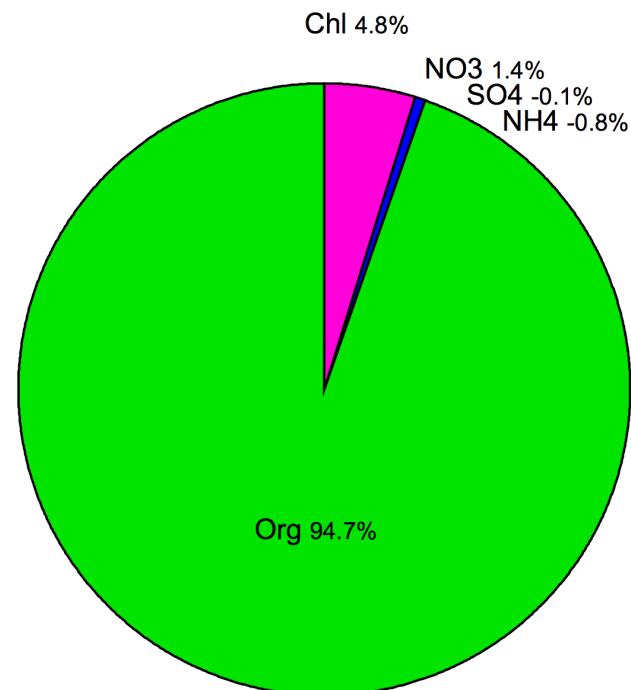
MS / eptof ratios



Composition differences



MS - Mixed Fuel



ePTOF - Mixed Fuel

KCl – slower vaporization, MS
Open / Closed Timescale (seconds)
vs ePTOF timescale (~50 us)