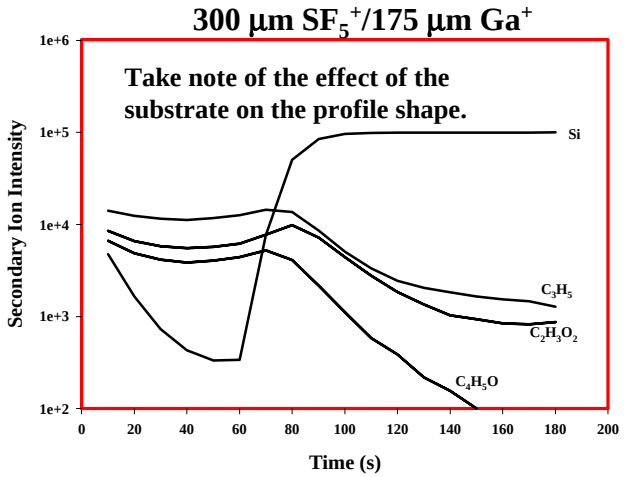
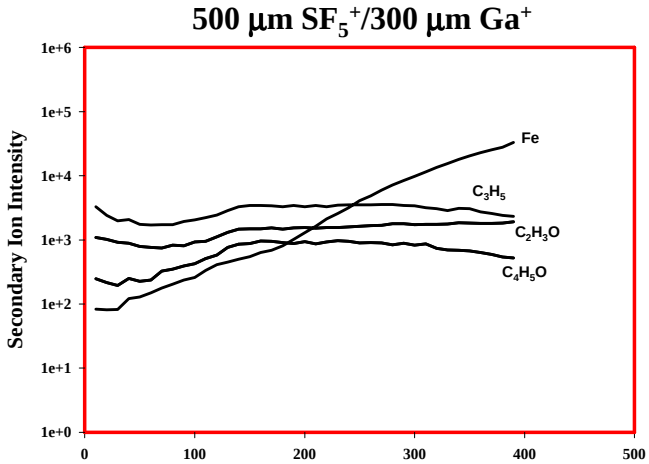
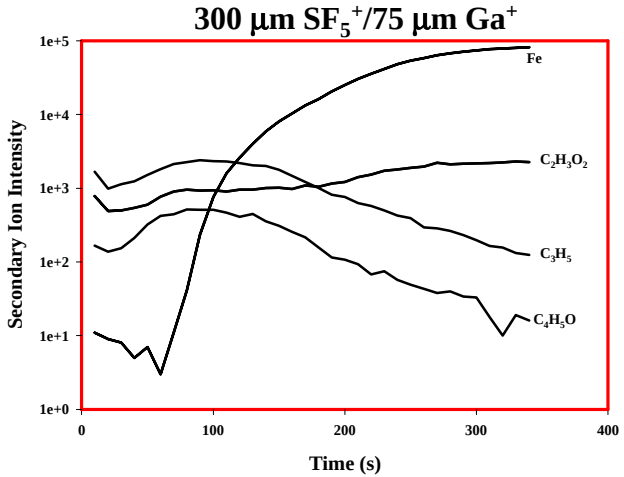
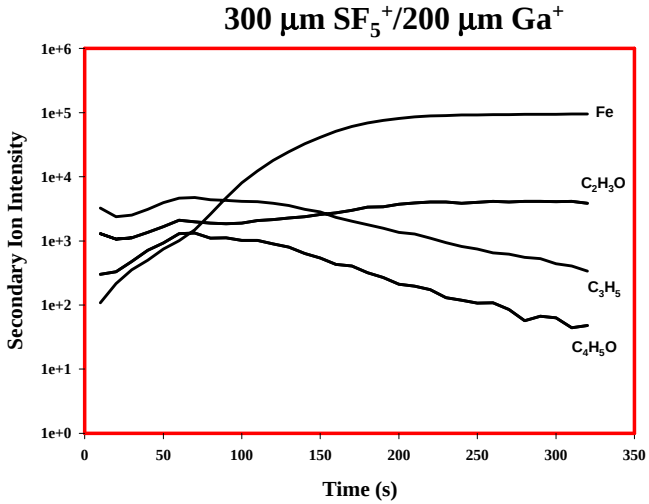
Depth Profile of a 100 nm PMMA Film - 25 keV Ga^+, 3 keV SF_5^+ - Optimizing Conditions: Raster Size Variations



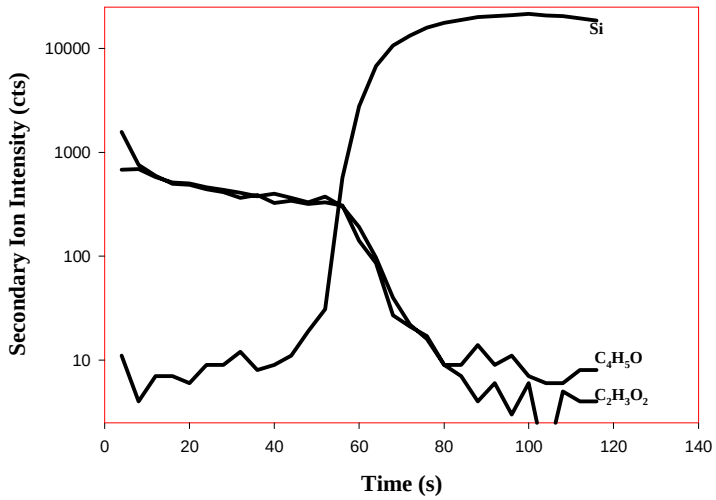






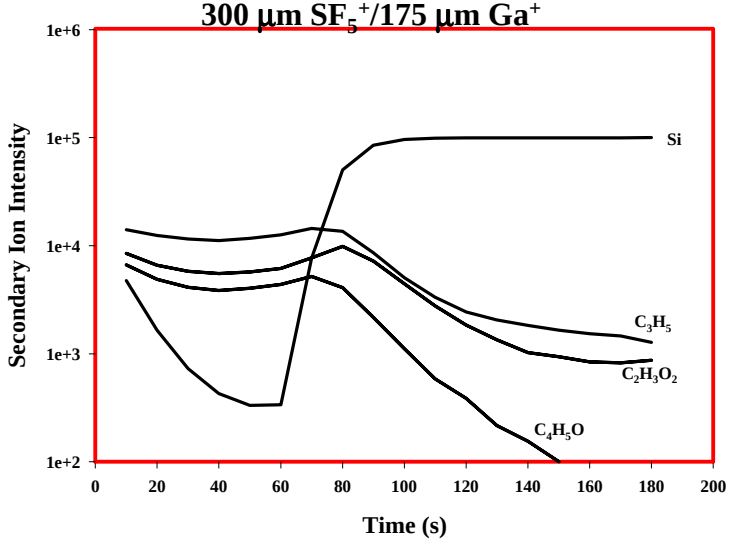
Depth Profile of a 100 nm PMMA Film - 9 keV Ar^+, 3 keV SF_5^+ - Optimizing Conditions: Comparing Analysis Beams

200 µm SF_5^+/50 µm Ar^+



Compare to the previous profile obtained using 25 keV Ga^+ for analysis.

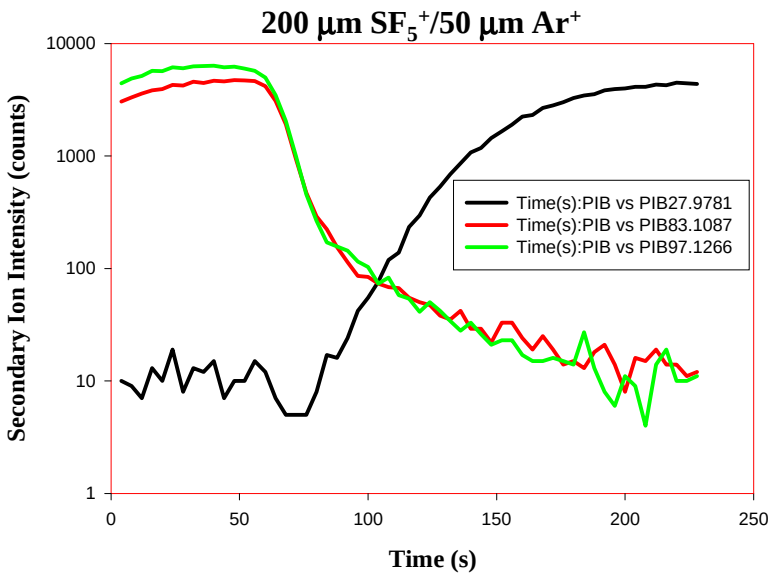
300 µm SF_5^+/175 µm Ga^+



The interface is sharper when Ar^+ is used for analysis.

Recall that not all polymers are amenable to depth profiling…..

Depth Profile of a PIB Film



Successfully Profiled

- **PMMA**
- **PIB**
- **PEG**
- **PPG**

Not Successfully Profiled

- **PC**
- **PS**
- **PI**
- **PE**

References:

1. D. Stapel et al, Proc. SIMS XIII, Wiley Chichester (1999),
2. G. Gillen and S. Roberson, Rapid Commun. Mass Spectrom. 12, 1303-1312 (1998)