

Jim Anderson  
Arizona State University

Aerosol and cloud droplet residue  
composition and size distributions

GANI slides from POC in RF7  
CVI samples from polluted area in  
RF12

# **GANI slide analysis by automated SEM**

VOC-RF7-GNIa19[VOC-RF7-GNIa19]

461

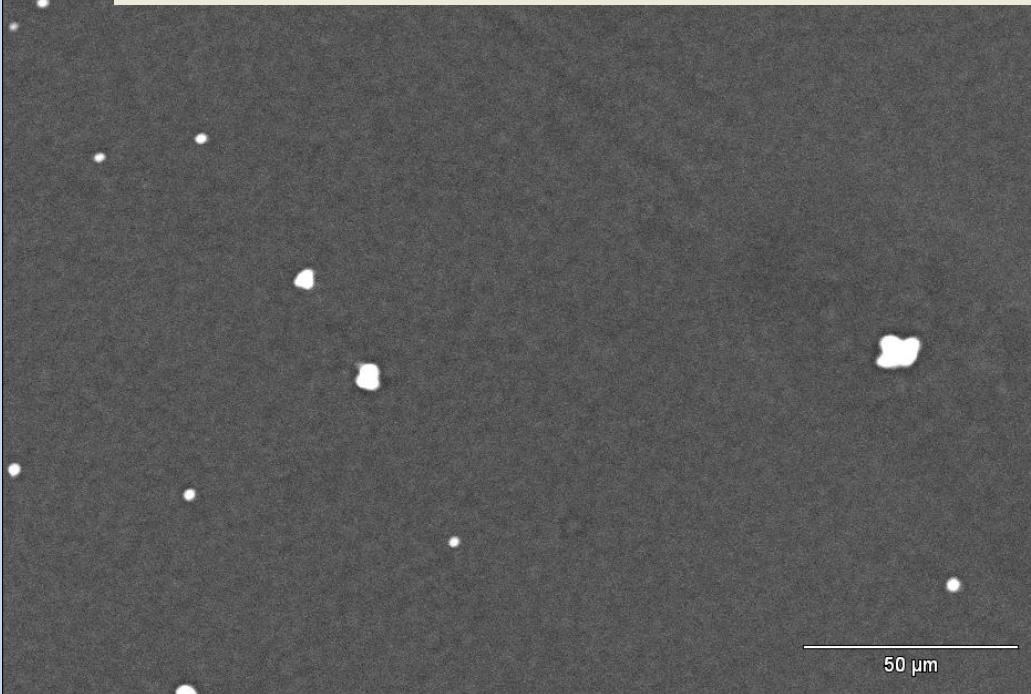
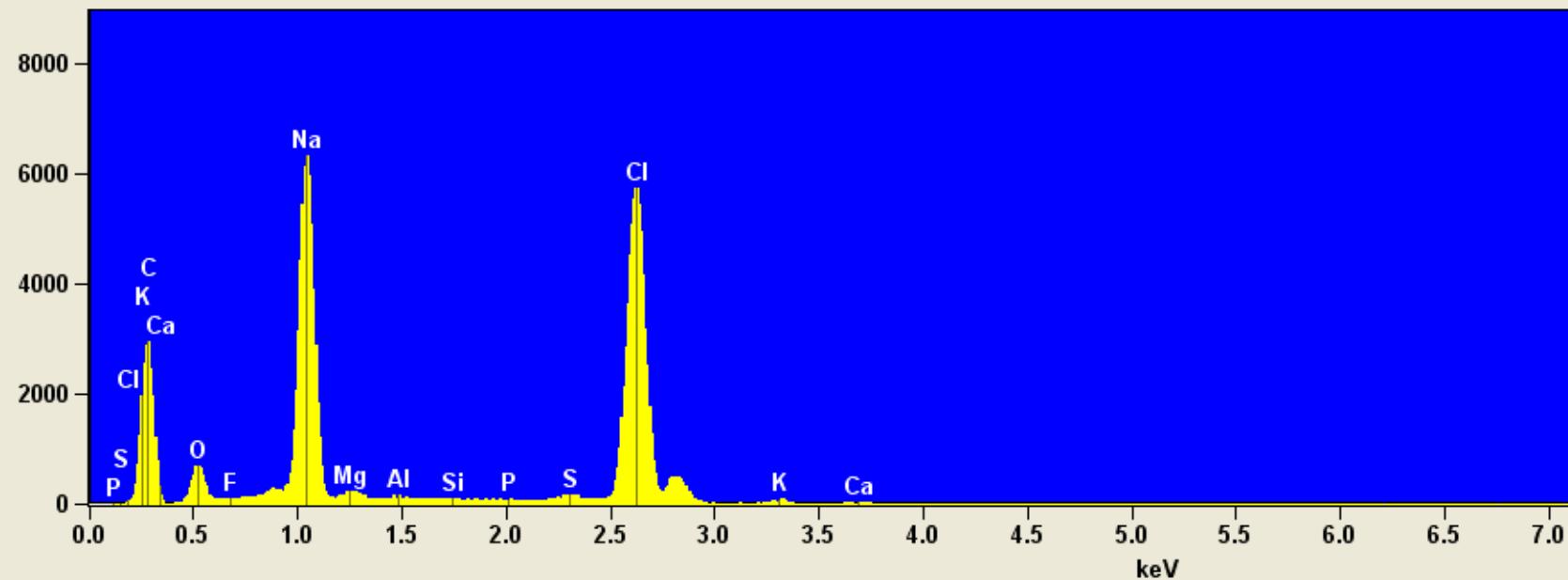
65535

18.2 s  
sampling time

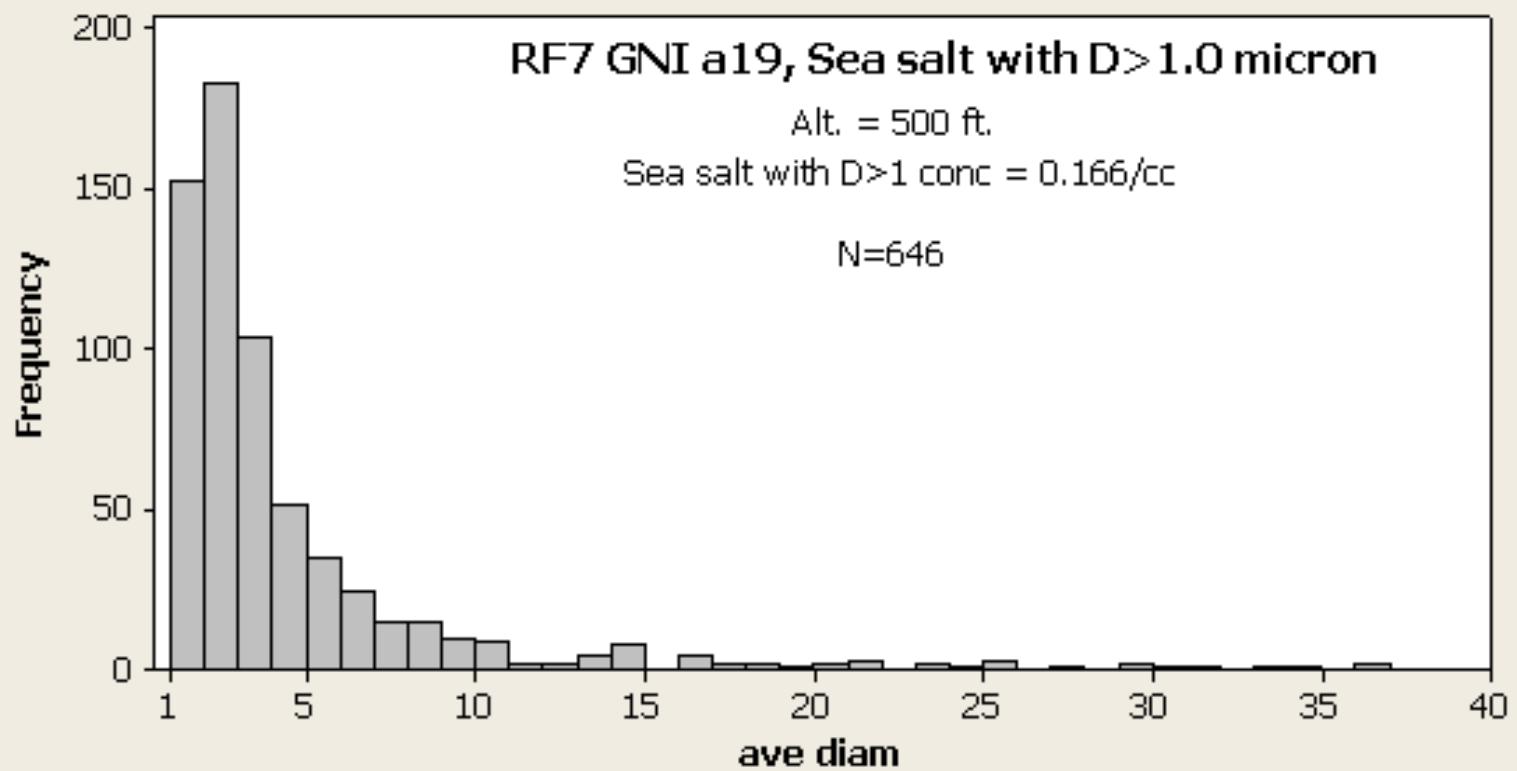
50  $\mu$ m

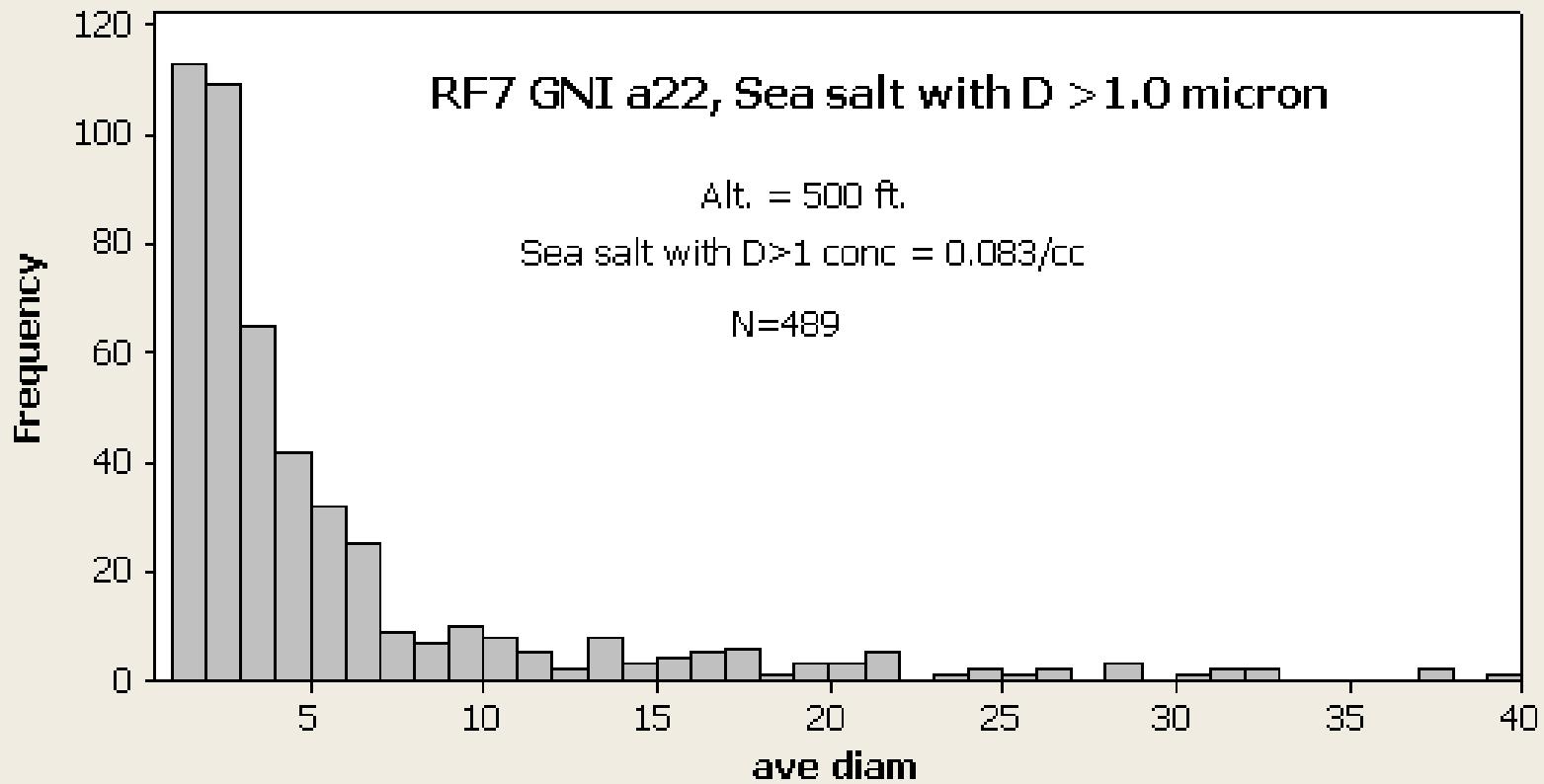
Full scale counts: 6349

VOC-RF7-GN1a19[VOC-RF7-GN1a19]\_Particle 000108

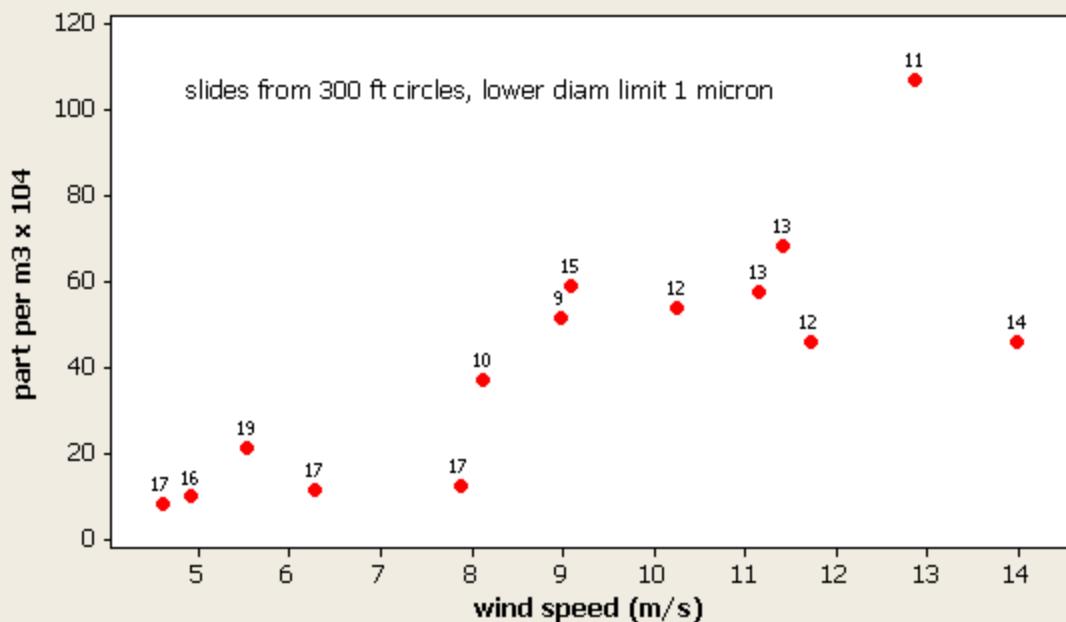


## RF7 POC, Giant Nuclei Impactor results





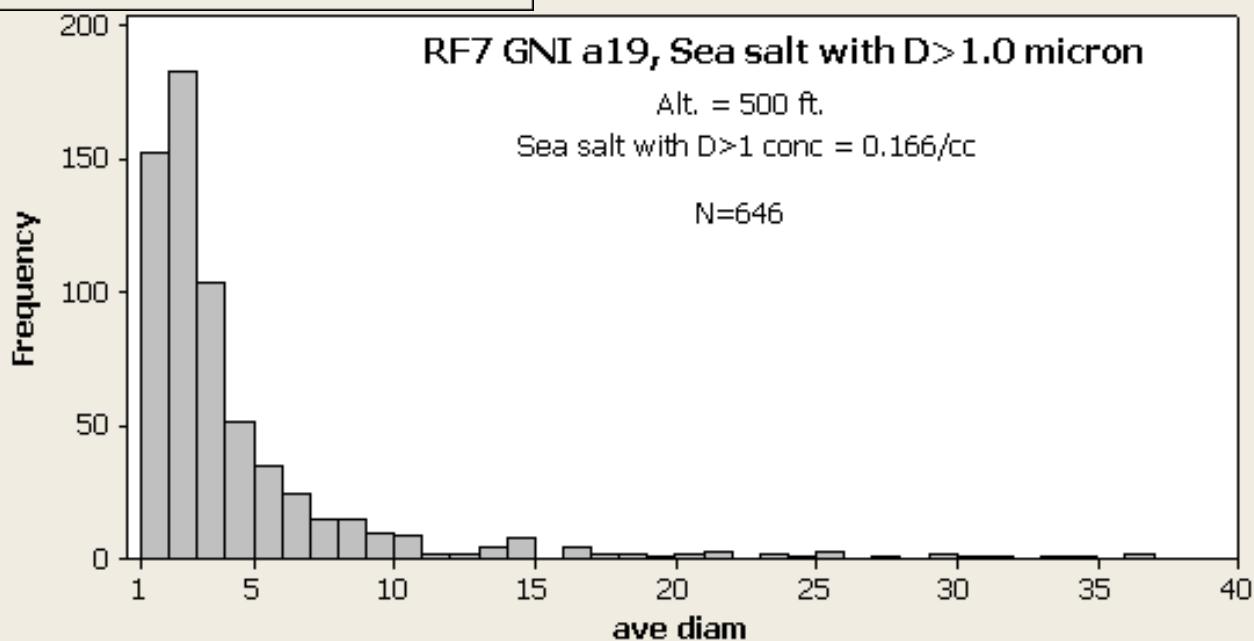
### RICO summary of 300 ft legs GNI



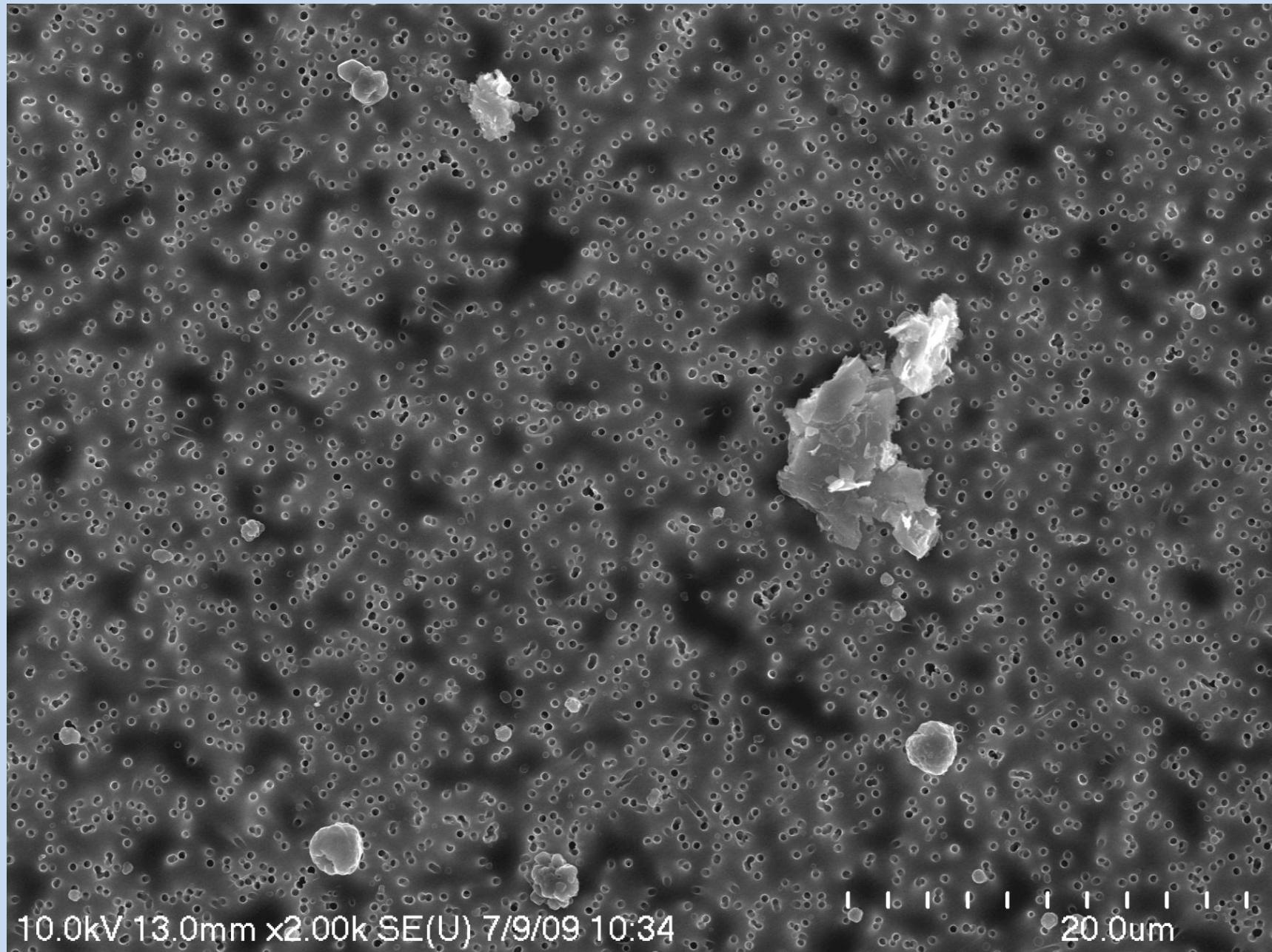
### RF7 GNI a19, Sea salt with $D > 1.0$ micron

Alt. = 500 ft.  
Sea salt with  $D > 1$  conc = 0.166/cc

N=646



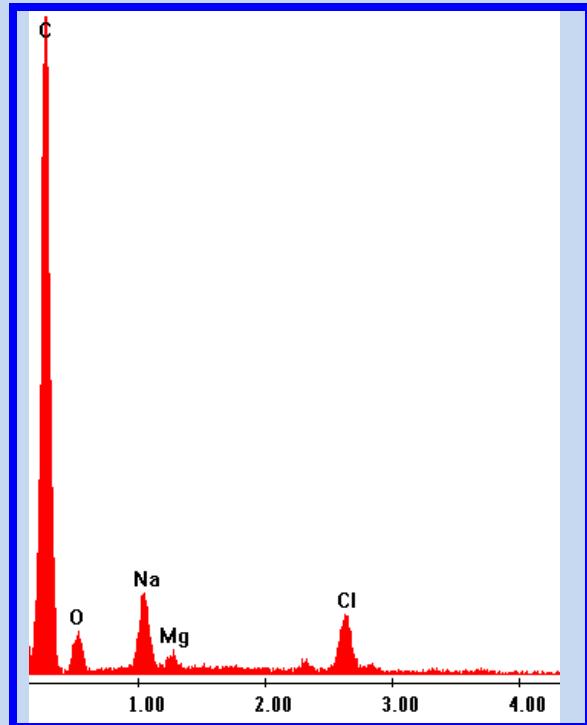
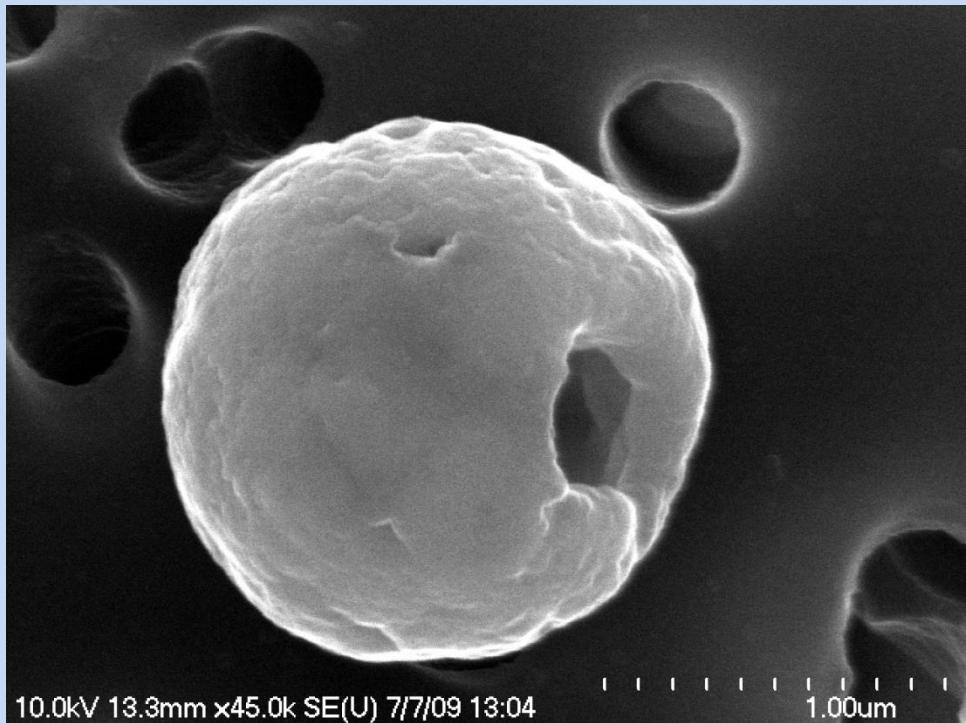
FEG SEM imaging of CVI samples  
from polluted clouds during RF12



10.0kV 13.0mm x2.00k SE(U) 7/9/09 10:34

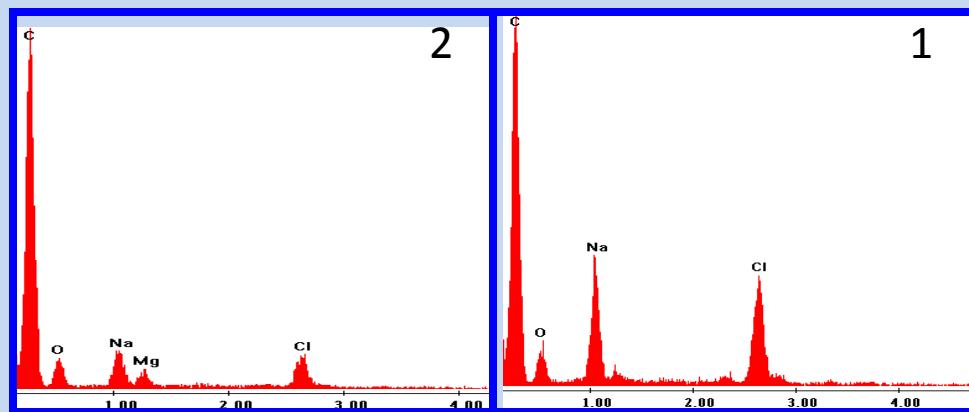
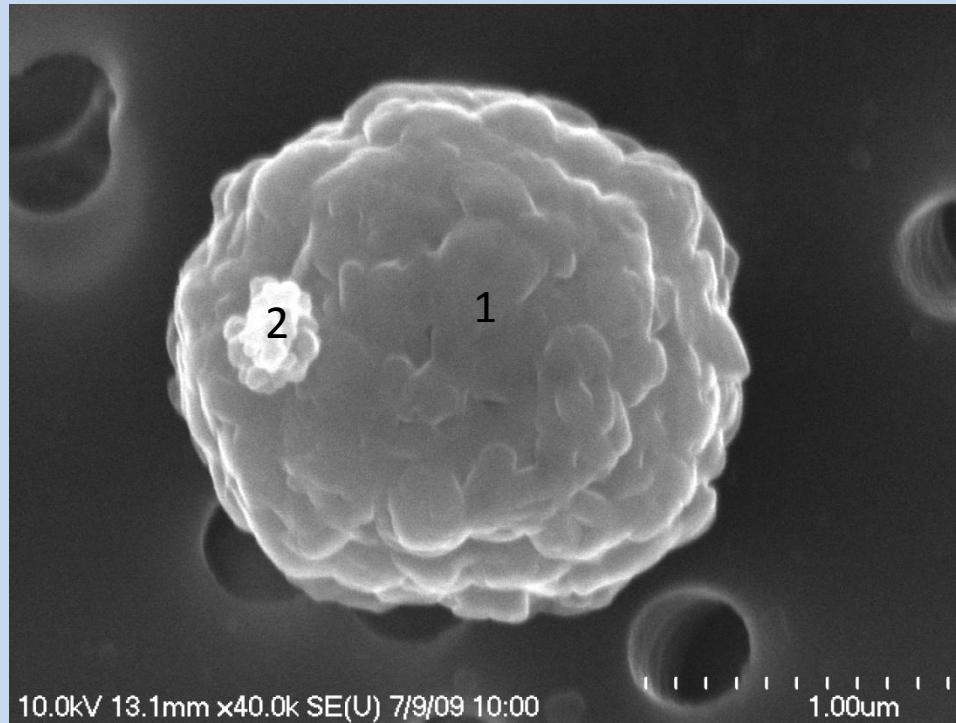
20.0um

Vocals RF12-CS1 (X2000 image-2)

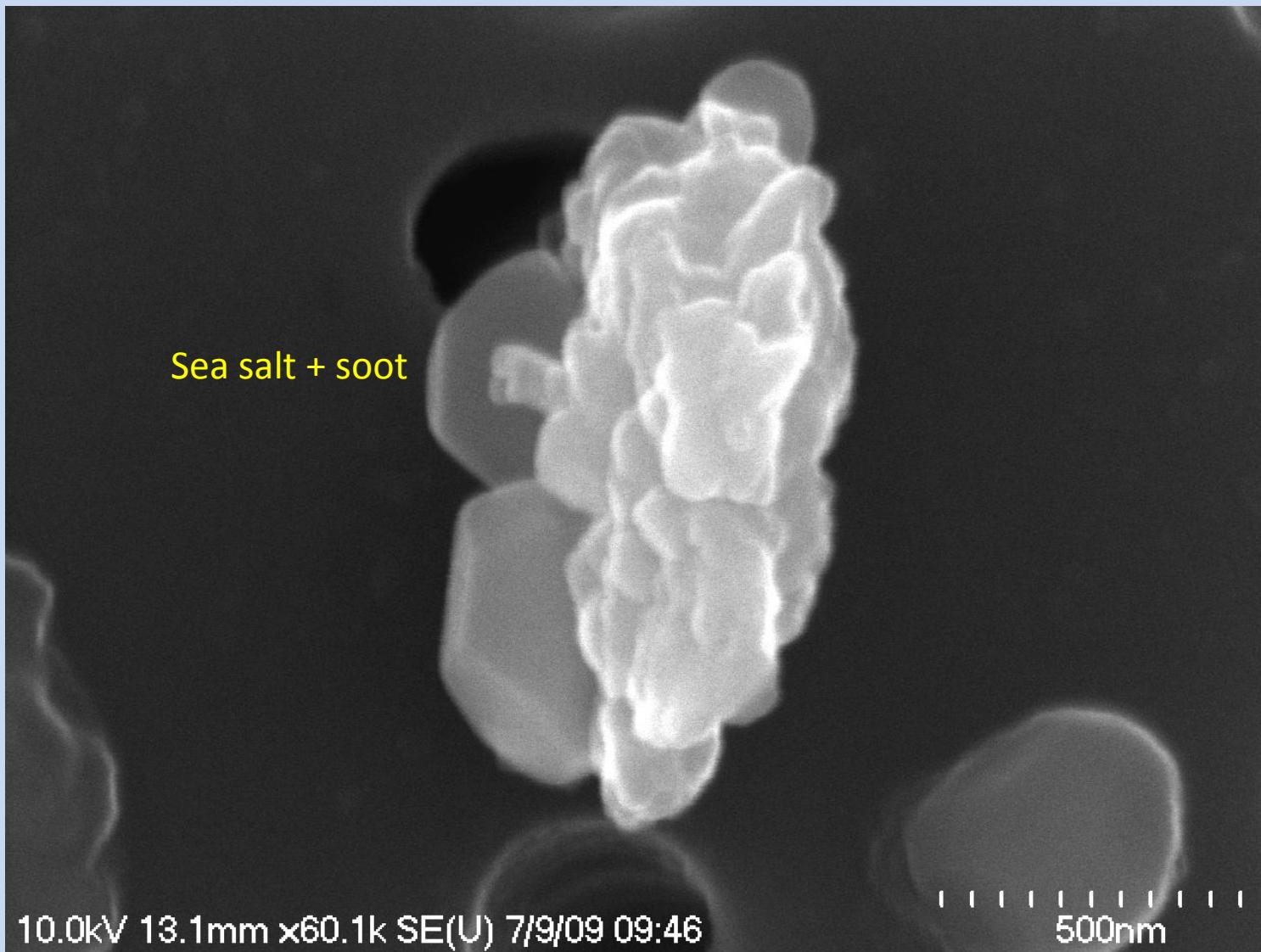


Vocals RF12-CS2

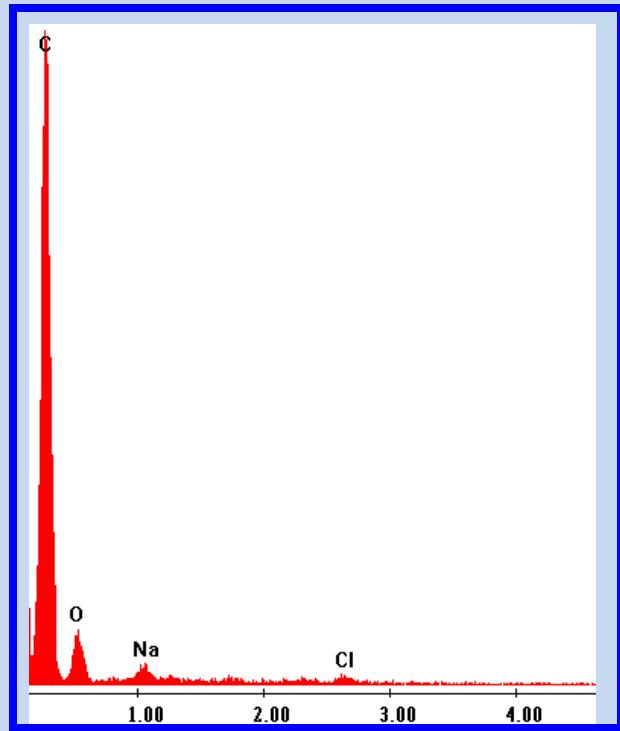
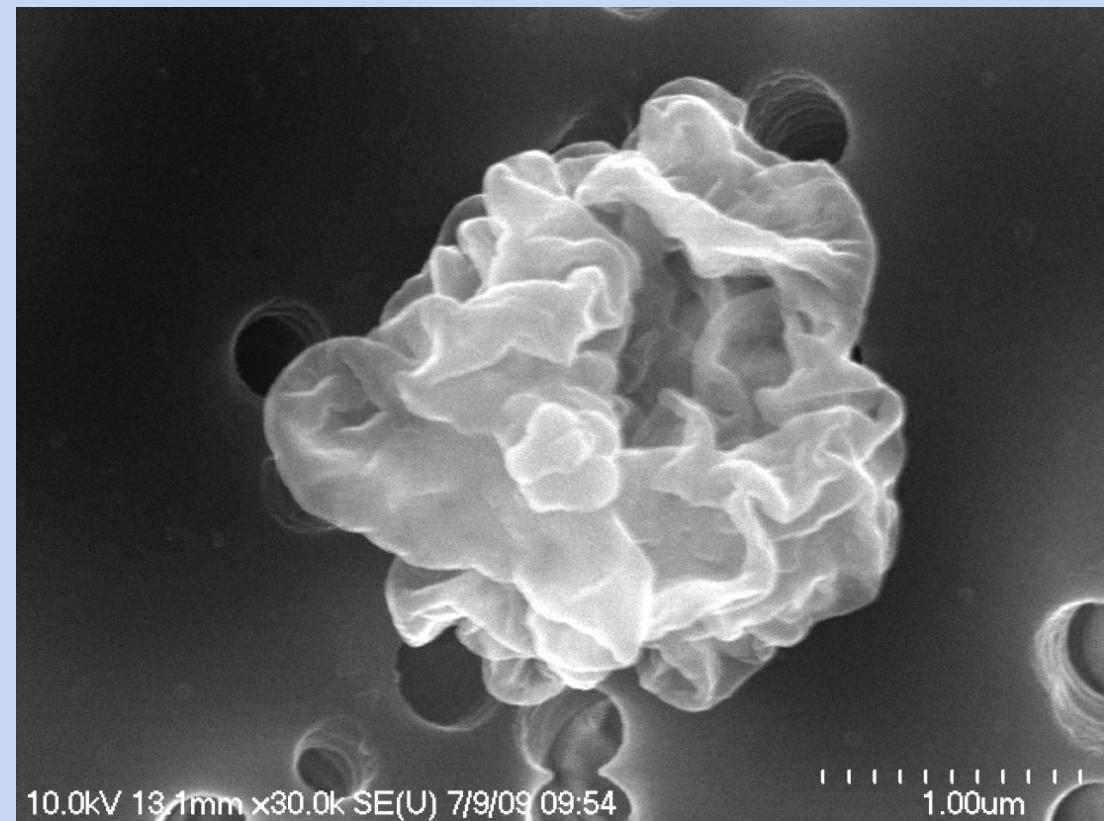
Sea salt +  
small soot



Vocals RF12-CS2

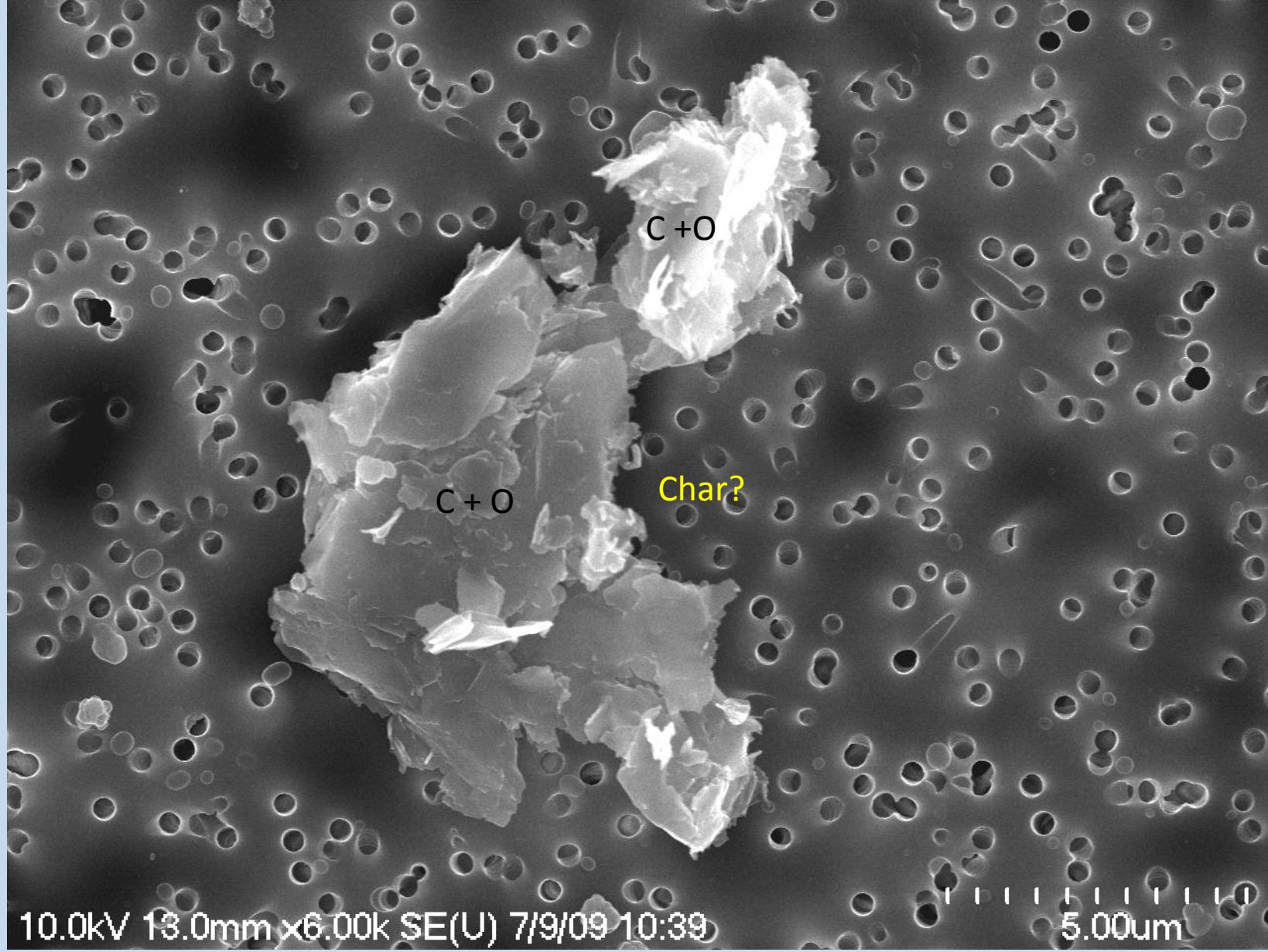


Vocals RF12-CS2

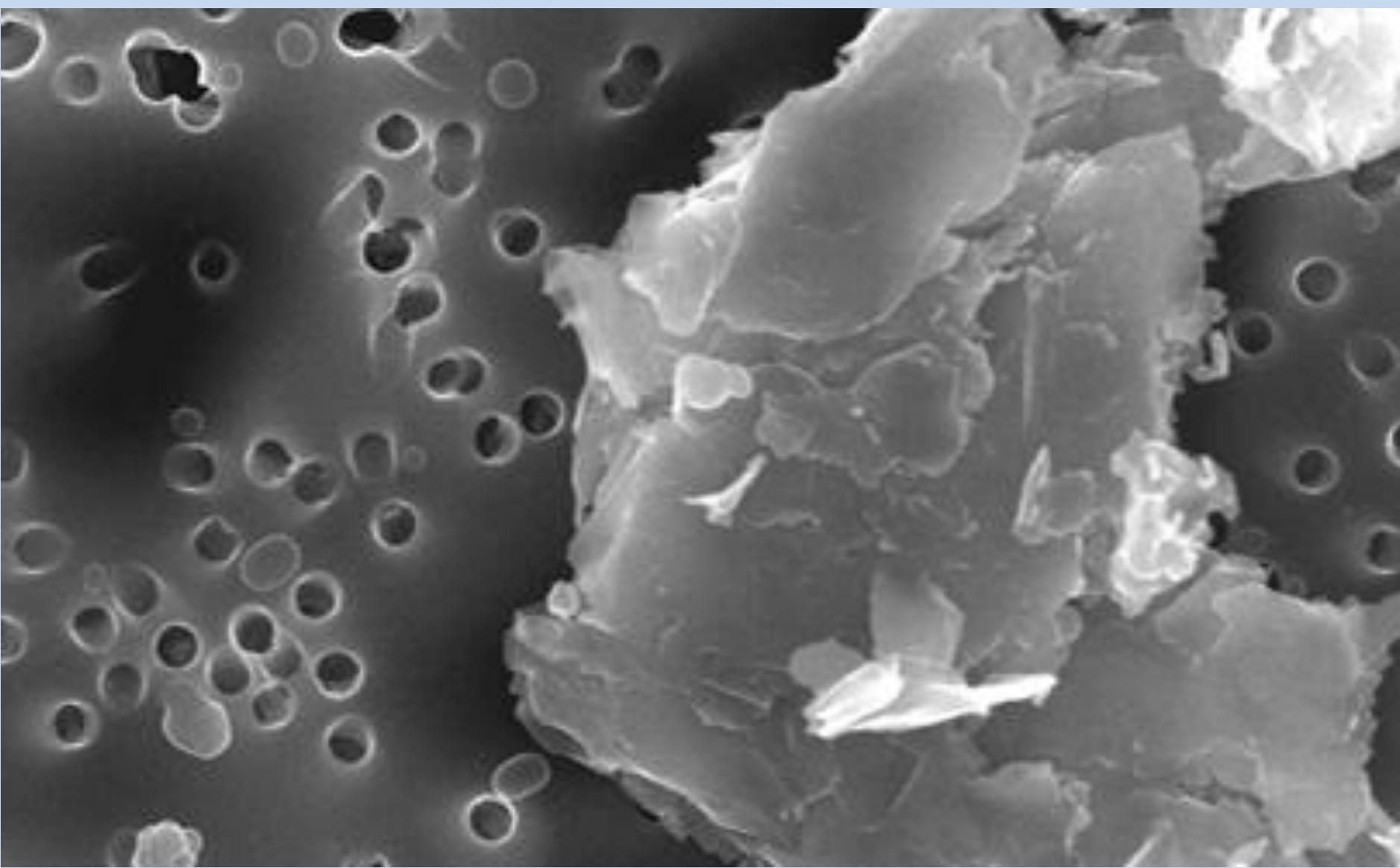


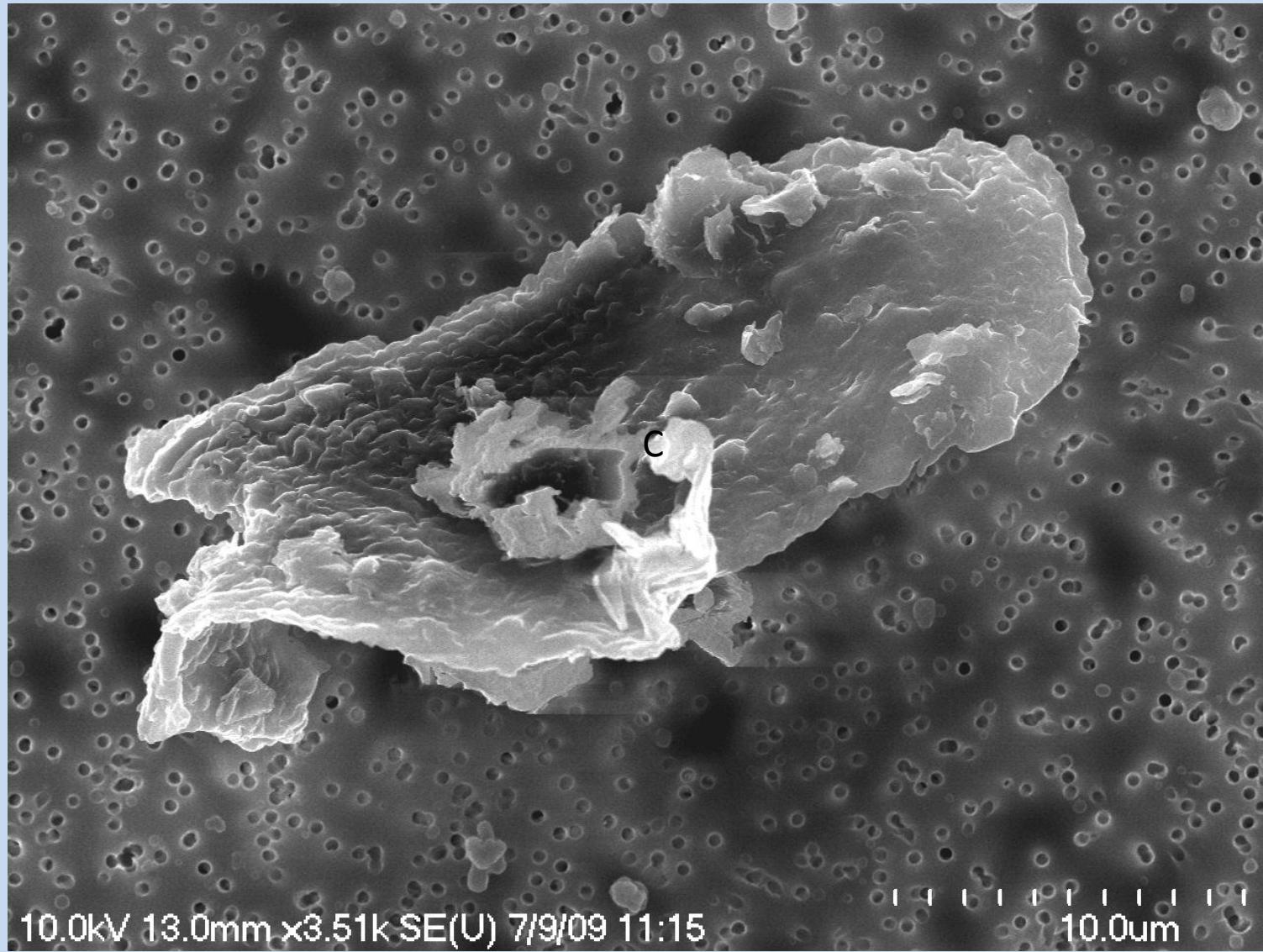
Biogenic? + small soot

Vocals RF12-CS2 particle

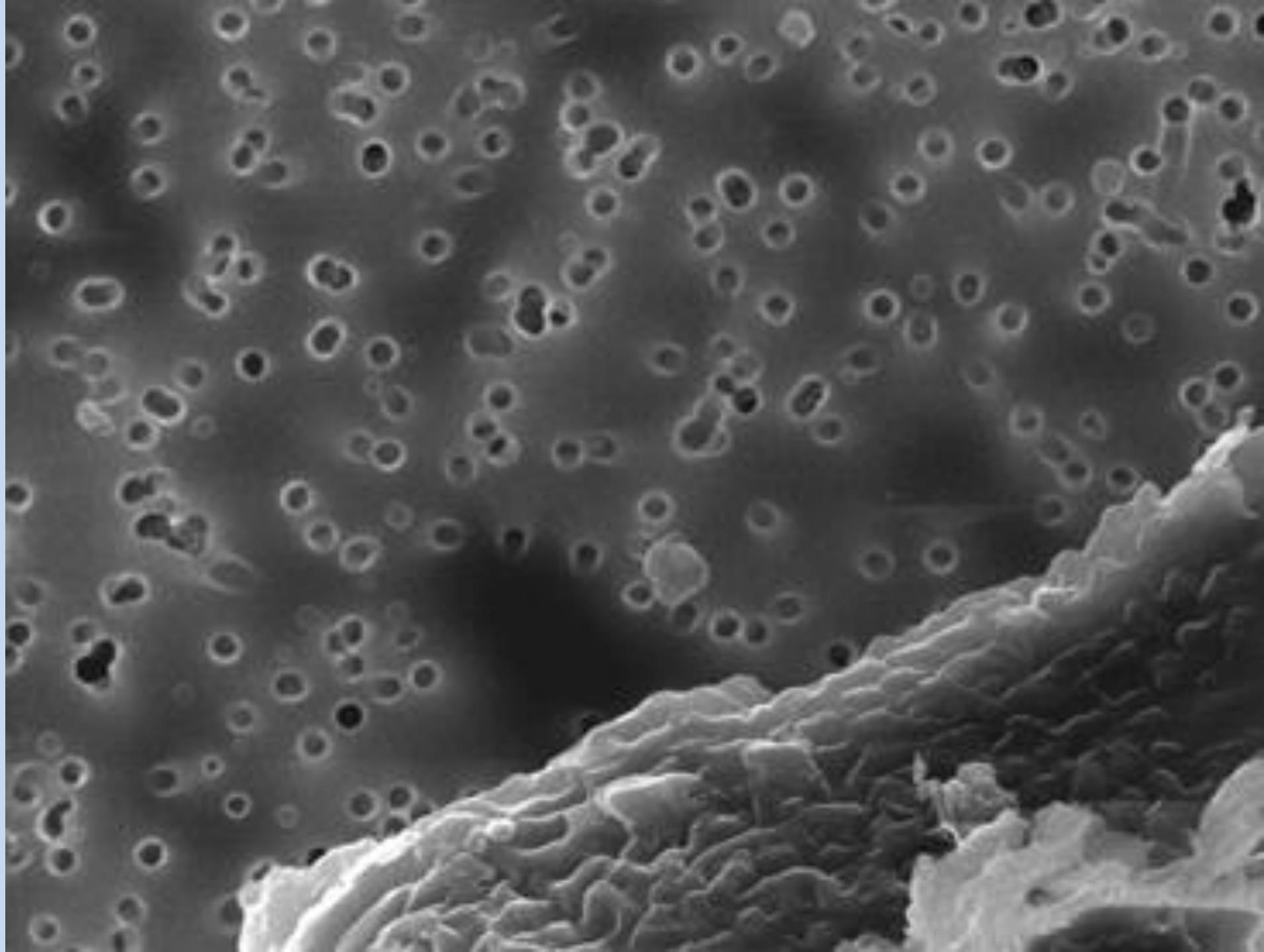


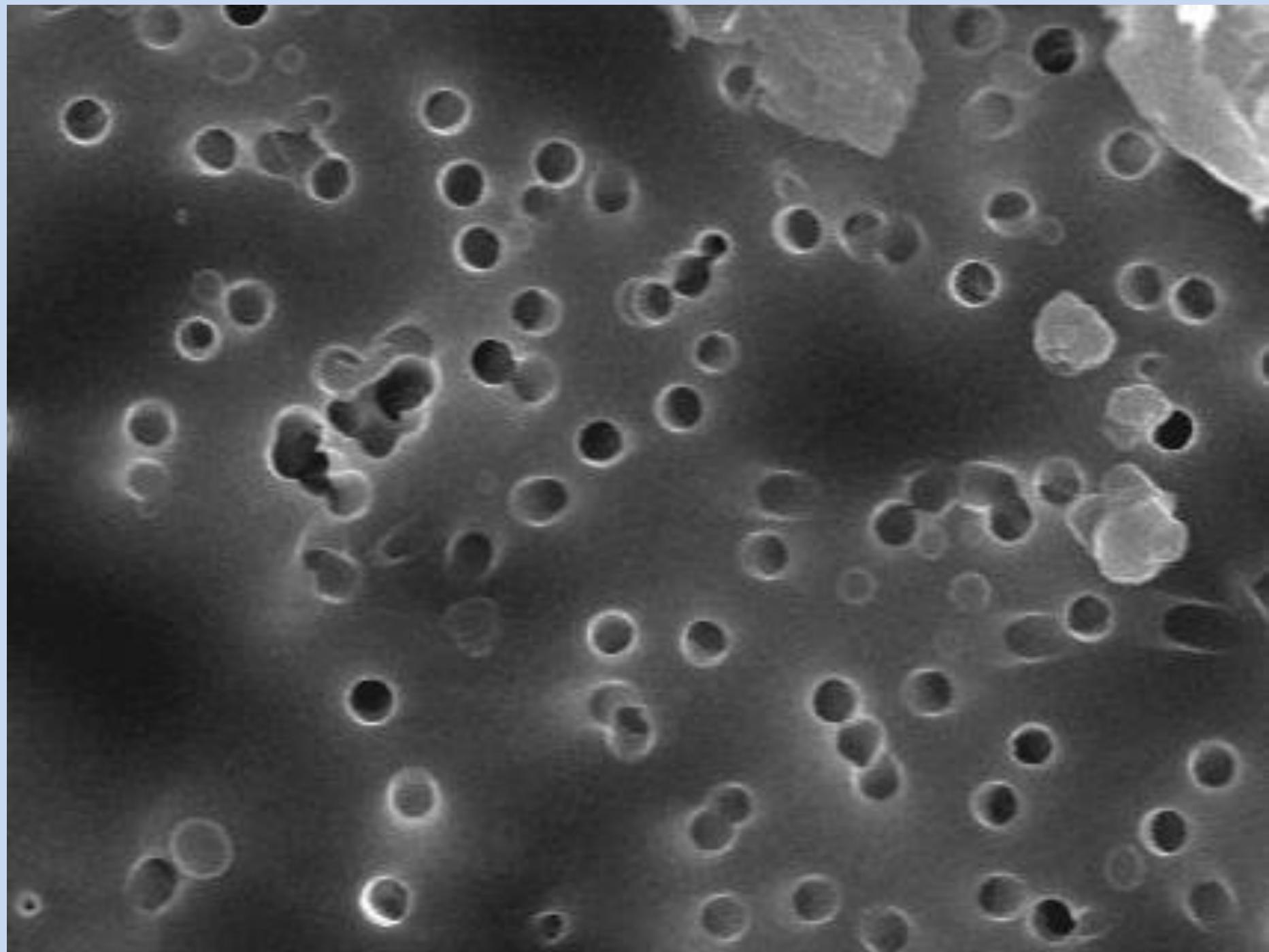
Vocals RF12-CS1

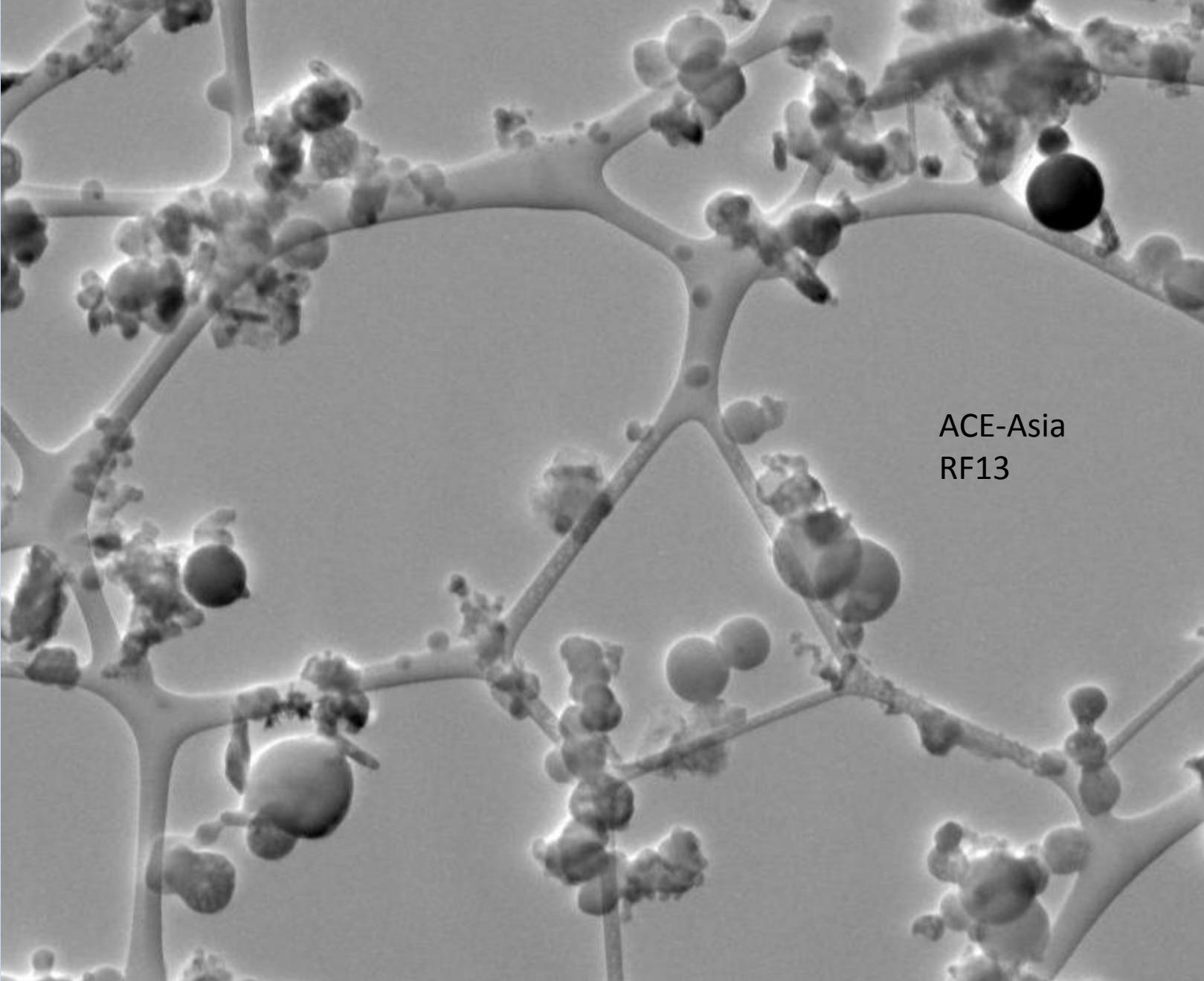




Particle in polluted Vocals RF12-CS1

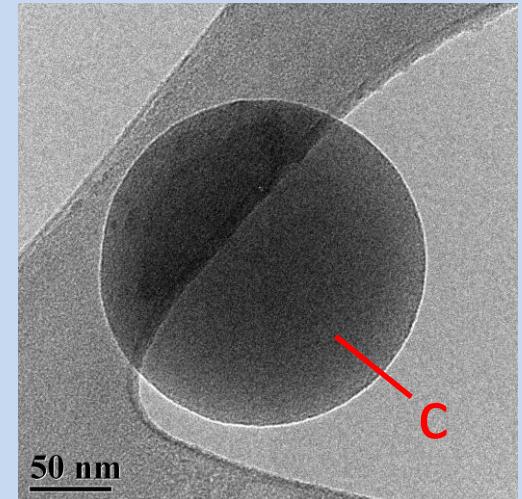
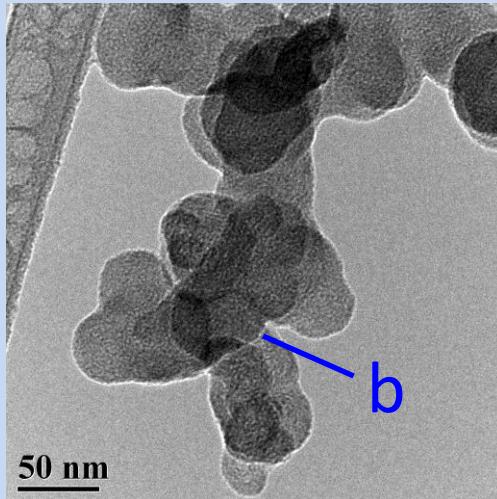
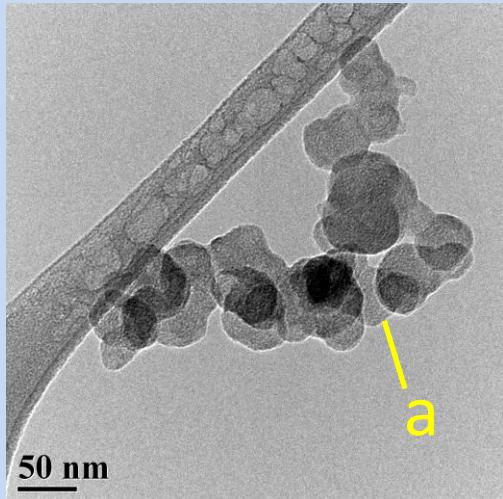




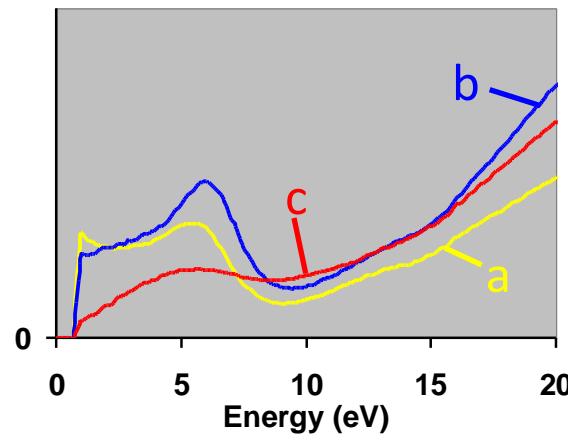


ACE-Asia  
RF13

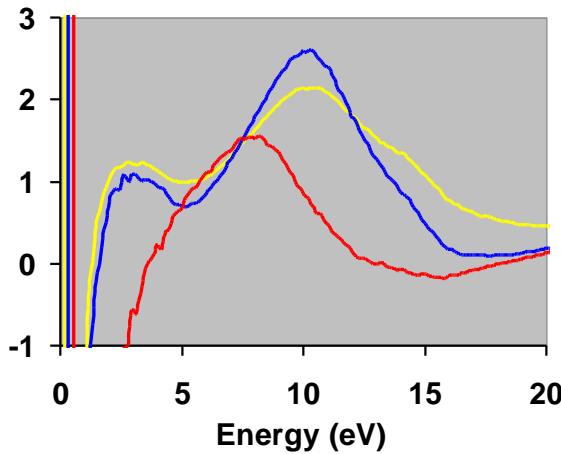
# ACE-Asia ambient aerosols



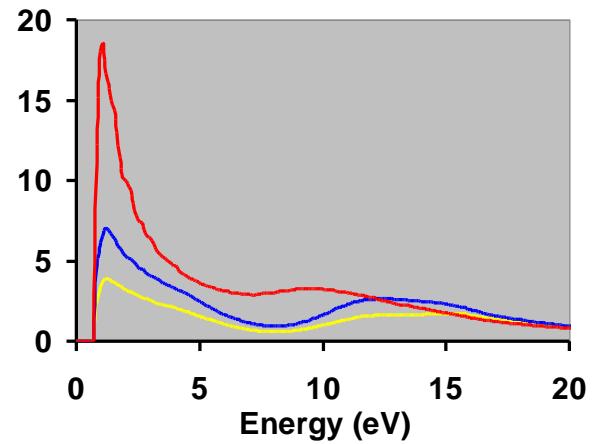
Single scattering spectra



Real dielectric  $\epsilon'$



Imaginary dielectric  $\epsilon''$



- Particle c shows very different dielectric properties in 1 – 4 eV range
- Differences between soot particles a and b are more significant