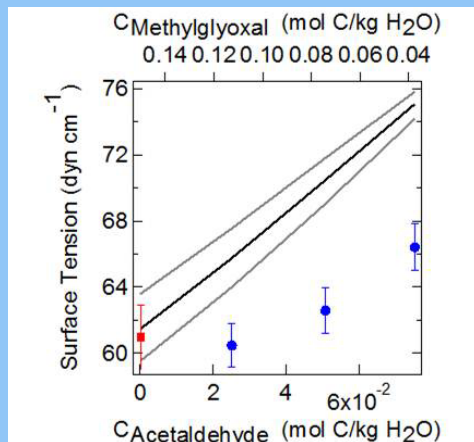


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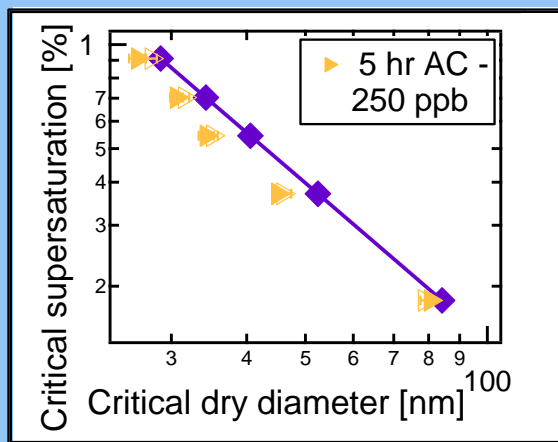
V. Faye McNeill, Department of Chemical Engineering, Columbia University

Atmospheric aerosol particles nucleate cloud droplets, thereby influencing the radiative properties, amount and lifetime of clouds, also known as the aerosol “indirect effects” on climate. Organic aerosol material is typically hydrophobic, however surface-active organics can lower aerosol surface tension, thus enhancing cloud droplet formation (CCN activity).

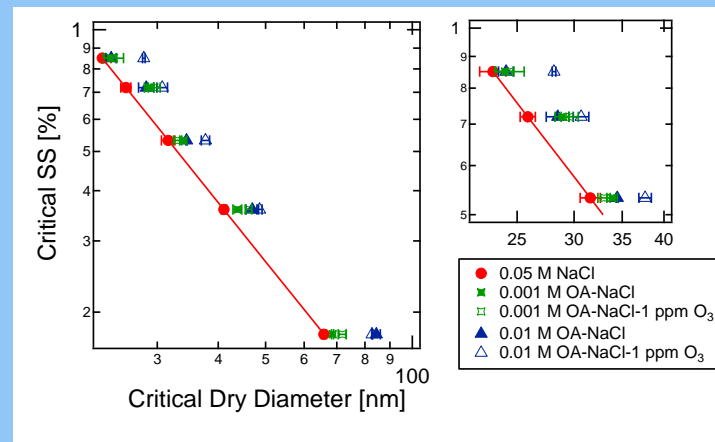
Surface tension depression by acetaldehyde-methylglyoxal mixtures in aqueous aerosol mimic solutions



Exposing (NH₄)₂SO₄ particles to acetaldehyde leads to increased cloud droplet nucleation



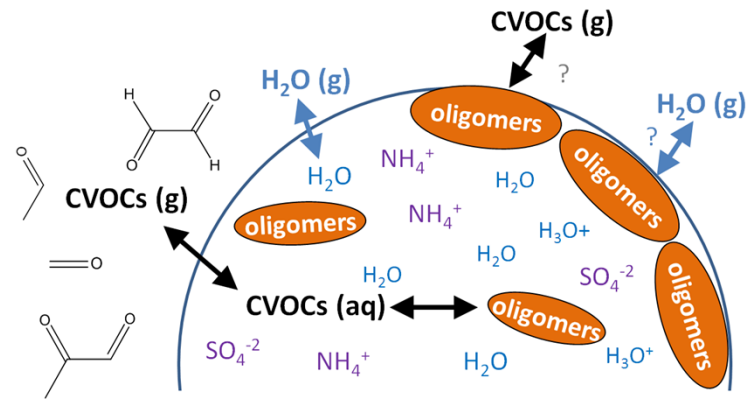
Oxidizing NaCl particles coated in oleic acid films leads to decreased CCN activity.



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