

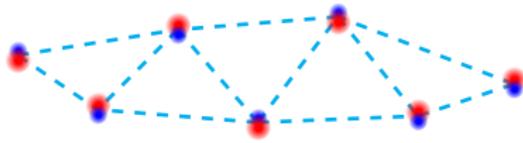
Observation of NaCs molecular state in optical tweezer

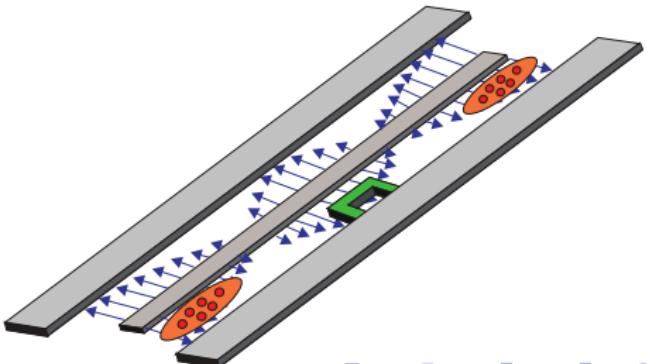
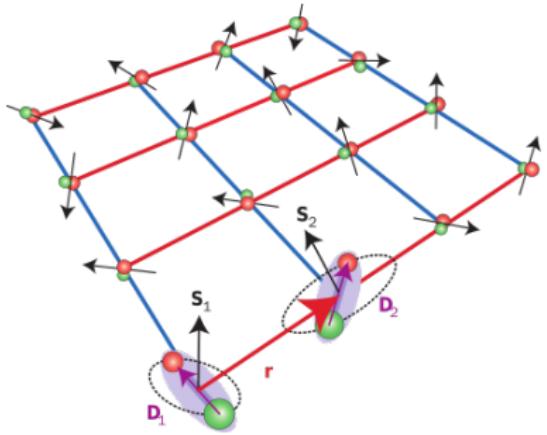
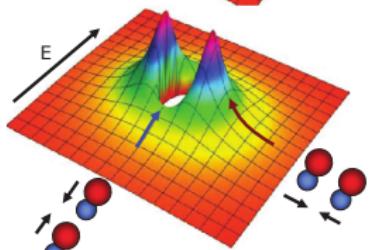
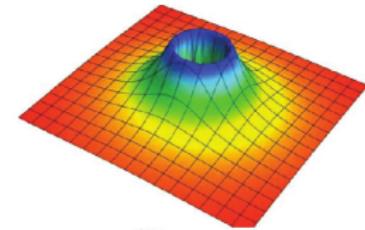
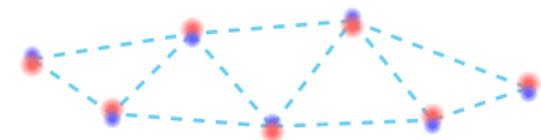
Yichao Yu

Lee Liu, Dr. Jon Hood

Ni Group/Harvard

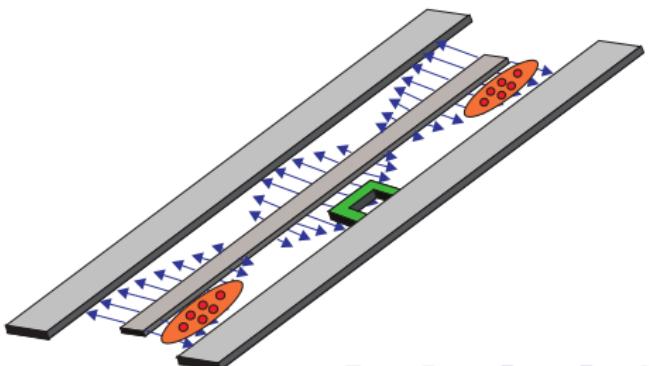
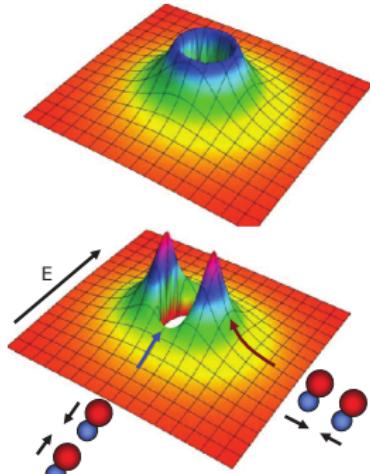
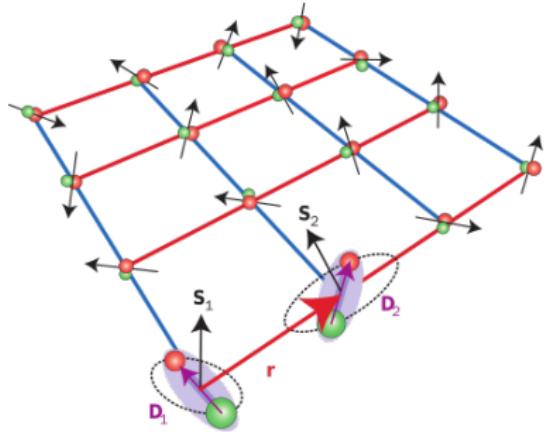
April 04, 2018



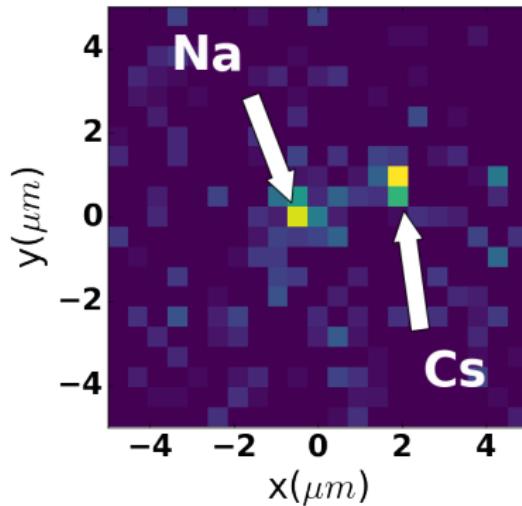


NaCs

Dipole moment: 4.6 Debye

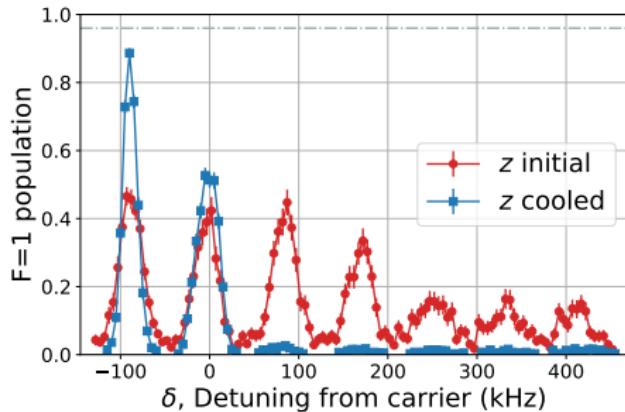


Loading



Loading probability: 60%

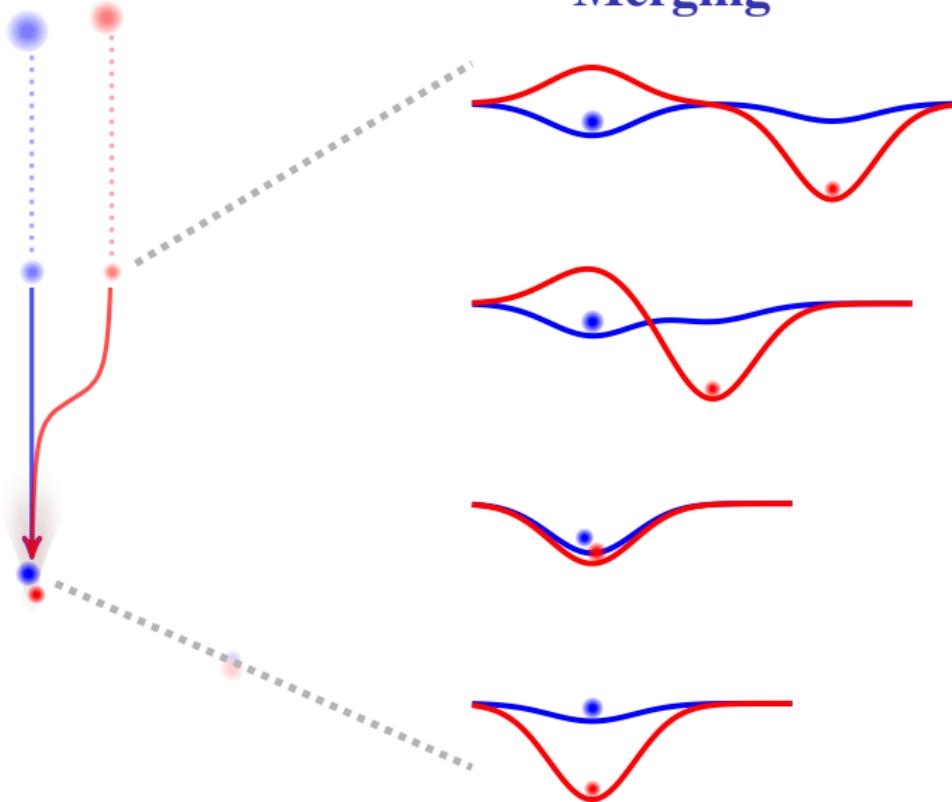
Cooling



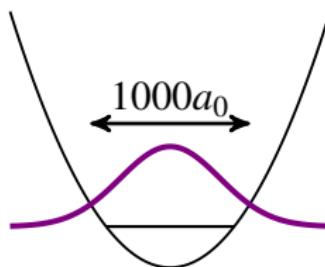
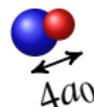
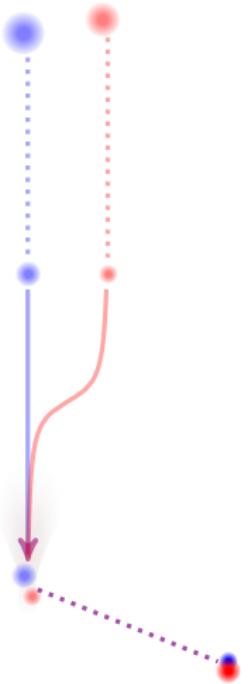
Cs: 96% ground state

Na: 94% ground state

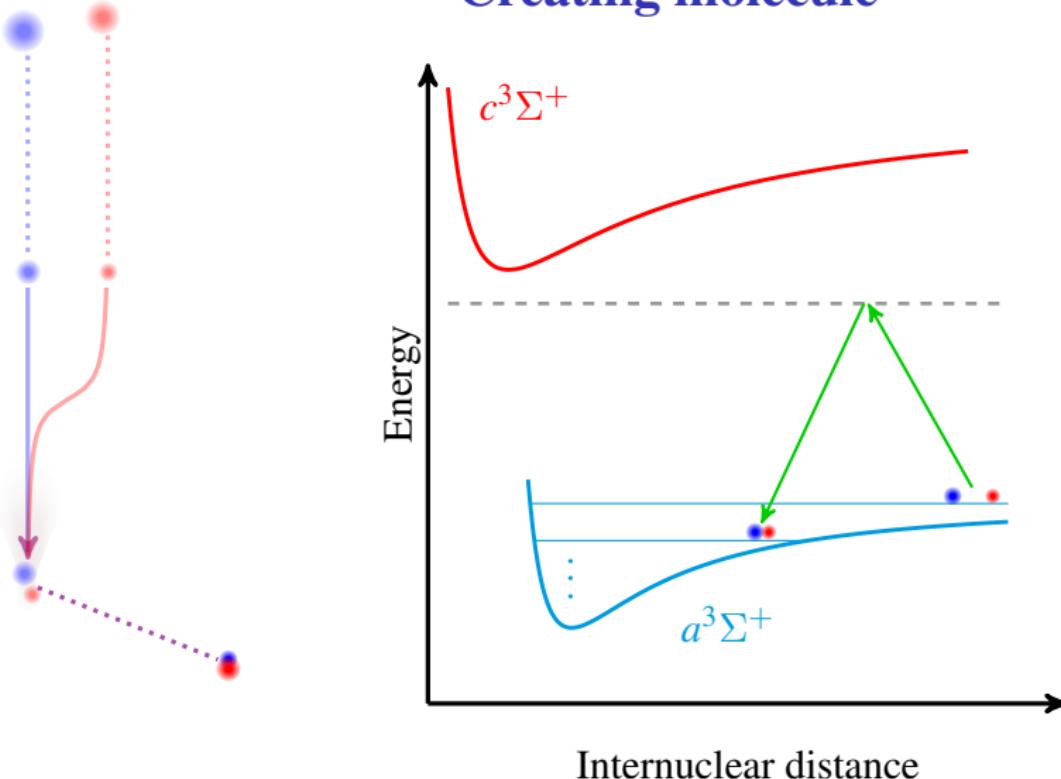
Merging



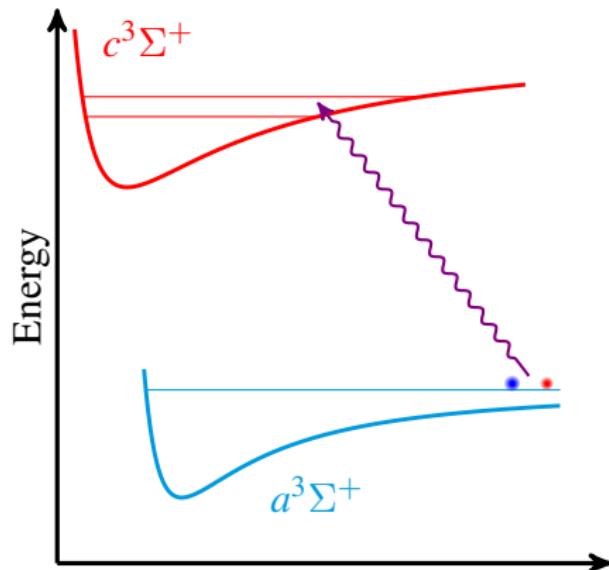
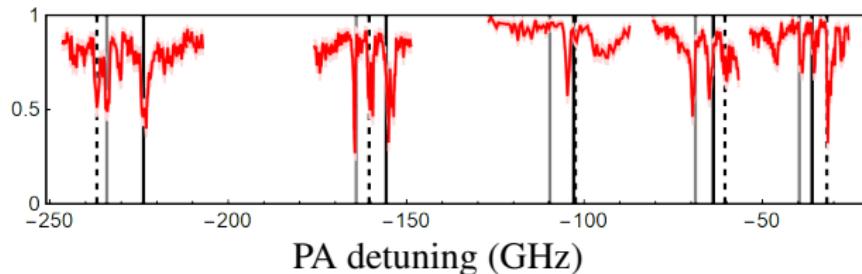
Creating molecule



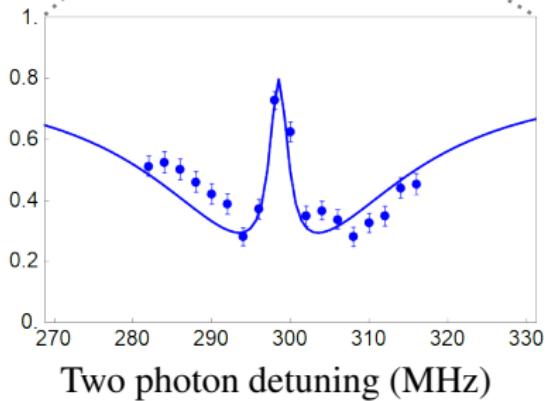
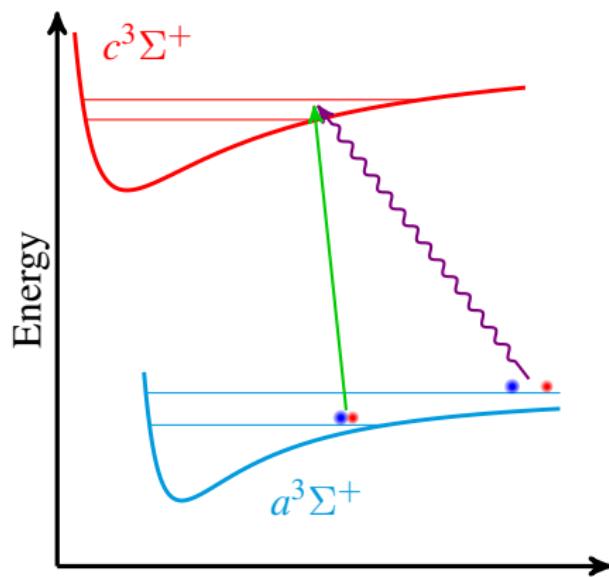
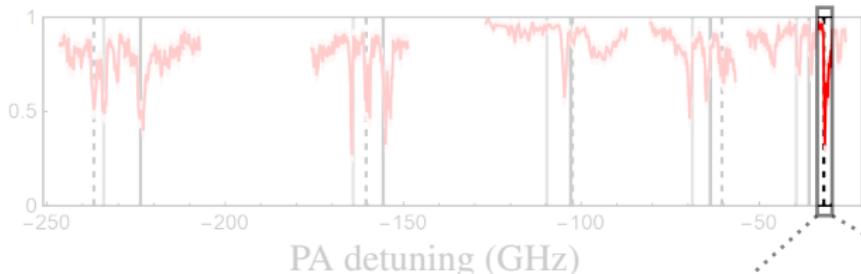
Creating molecule



Photoassociation (PA) spectroscopy



Electromagnetically Induced Transparency (EIT) spectroscopy



Next step

Make molecules!!

Next step

Make molecules!!

Thank you for your attention.