This talk will review recent highlights from early shared risk observations of the rotational emission lines from small molecules in the protoplanetary disks around young Sun-like stars. Particular emphasis will be placed on the synergy of the ALMA observations of the outer disk with high resolution spectroscopy from the ground and space (Herschel, Spitzer) at infrared through THz wavelengths, and on observational constraints that can be placed on the location of key condensation fronts such as the (water) snow line.