**Expt. Observations:**

1. Activity of CO-oxidation quite abruptly changes with size (TPD experiments)
2. Low energy ion scattering (ISS) experiments shows that there is drop in ISS signal indicates that morphological transitions
3. Experimental absorbance spectra for CO oxidation shows that Pt(CO3) carbonates are stable intermediates for CO conversion to CO2

**In general clusters:**

1. Size-dependent electronic and geometric properties
2. Multiple thermally accessible significantly different electronic and geometric structures called fluxional behavior
3. Different type and number of bonding sites available
4. Reaction selectivity

**Pt-clusters**

**Pt-O clusters**

**CO-oxidation:**

1. Activity of CO-Oxidation Vs change in electronic structure as well as number of bonding sites

**Surface Catalysis:**

1. Adsorbate binding can drive cluster isomerization