

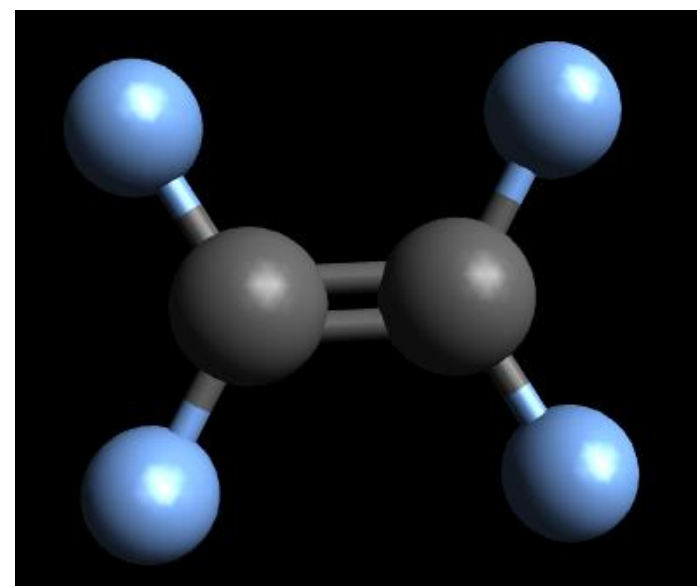
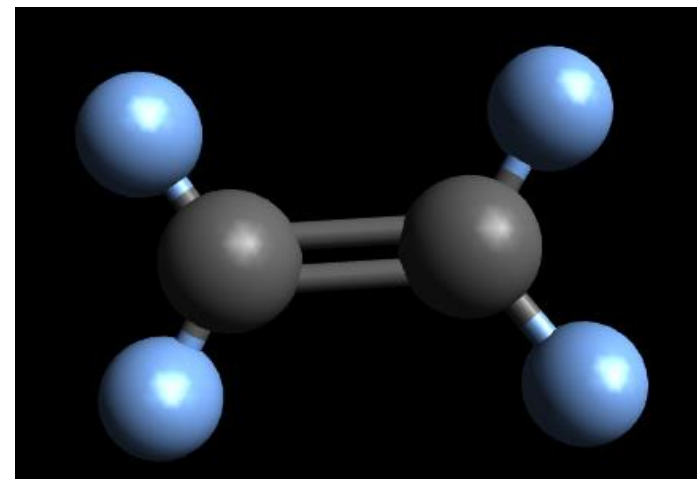
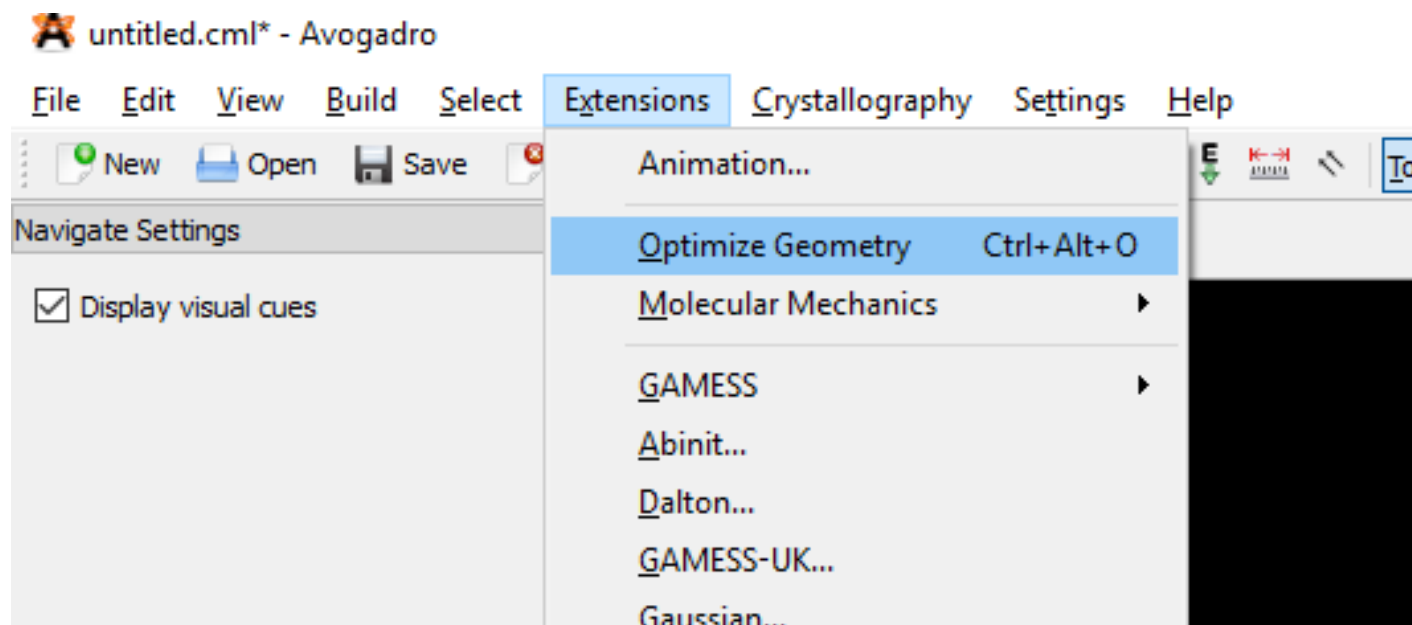
Rezsnyak Lab

TTU Mini-Symposia F2021



New Experiments

- New experiments for CHEM 1110/1120:
 - Separation of Mixtures
 - Avogadro Exercise



Experiment Development

- Experiment development:
 - New technology – new opportunities!
 - Fluorescence/emission.
 - Modeling (polarity).
 - Synthesis.



GEN CHEM REVIEW

Assessing Assessments

##) Which of the following solutes would be the most soluble in the solvent carbon tetrachloride, CCl_4 ?

a) LiNO_3 (12.90%) b) PbSO_4 (11.29%) c) CO (16.13%) **d) HCl (30.65%)** e) I_2 (27.42%)

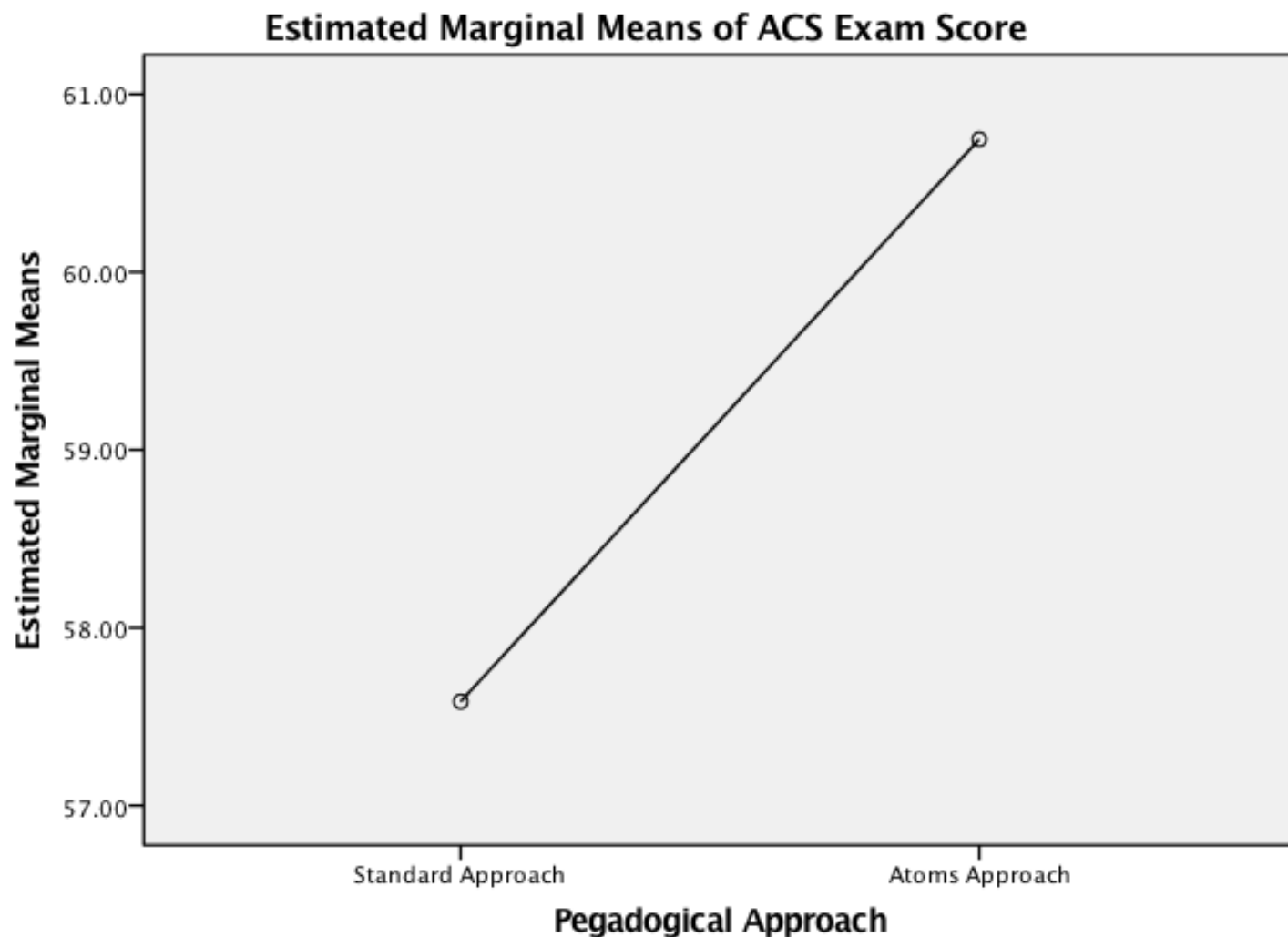
##) Which of the following solutes would be the most soluble in the solvent carbon tetrachloride, CCl_4 ?

a) CsBrO_3 (10.94%) b) AlPO_4 (17.19%) **c) CO (32.81%)** d) HBr (18.75%) e) I_2 (20.31%)

##) Which of the following solutes would be expected to be the most soluble in the solvent carbon tetrachloride, CCl_4 ?

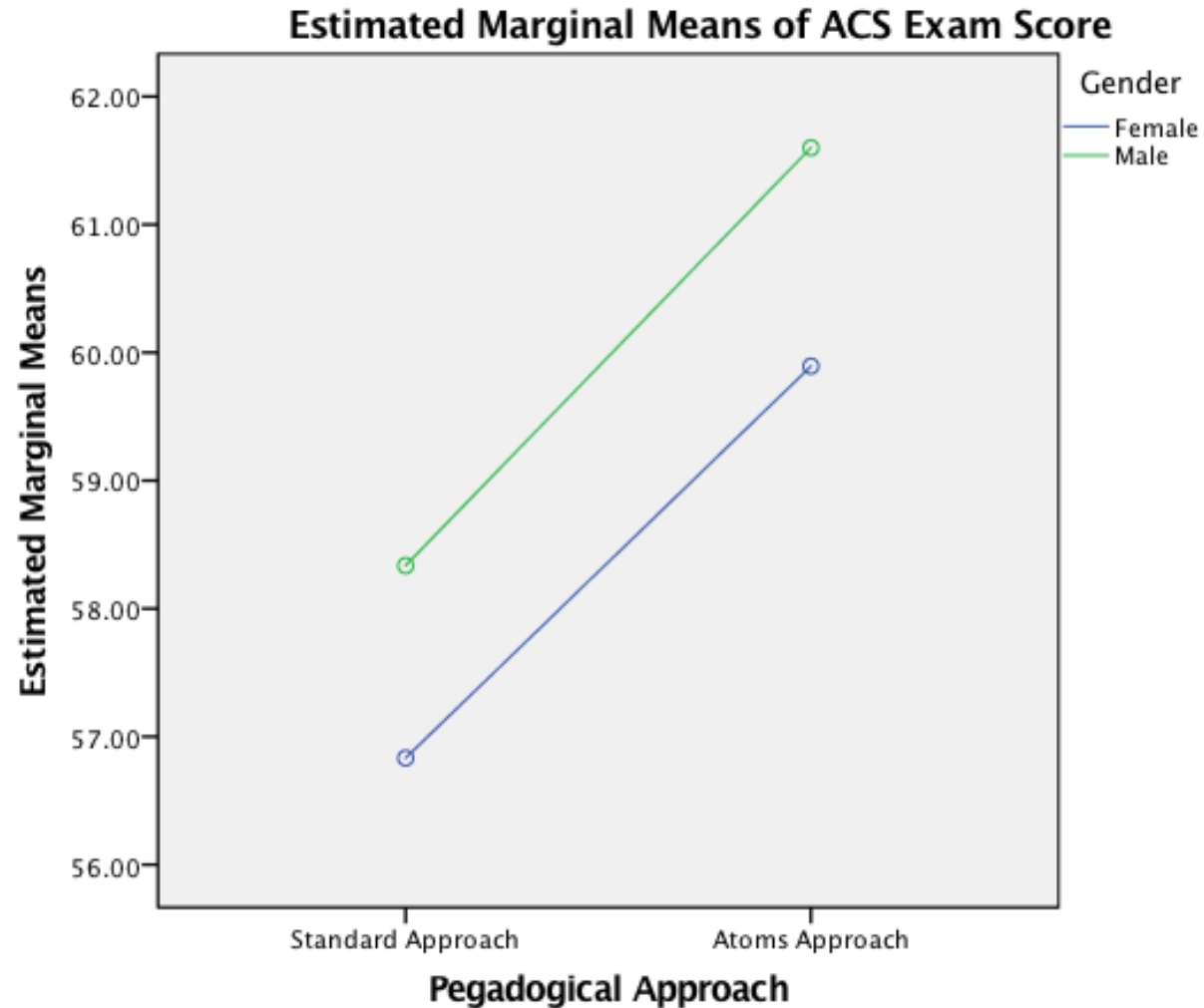
a) LiCl (15.52%) b) MgCl_2 (25.86%) c) AlCl_3 (10.34%) **d) SCl_4 (32.76%)** e) PCl_5 (15.52%)

Atoms First – Exam Performance



Covariates appearing in the model are evaluated at the following values: ACT Science Score = 26.34, ACT Math Score = 25.88

Atoms First – Gender Interaction



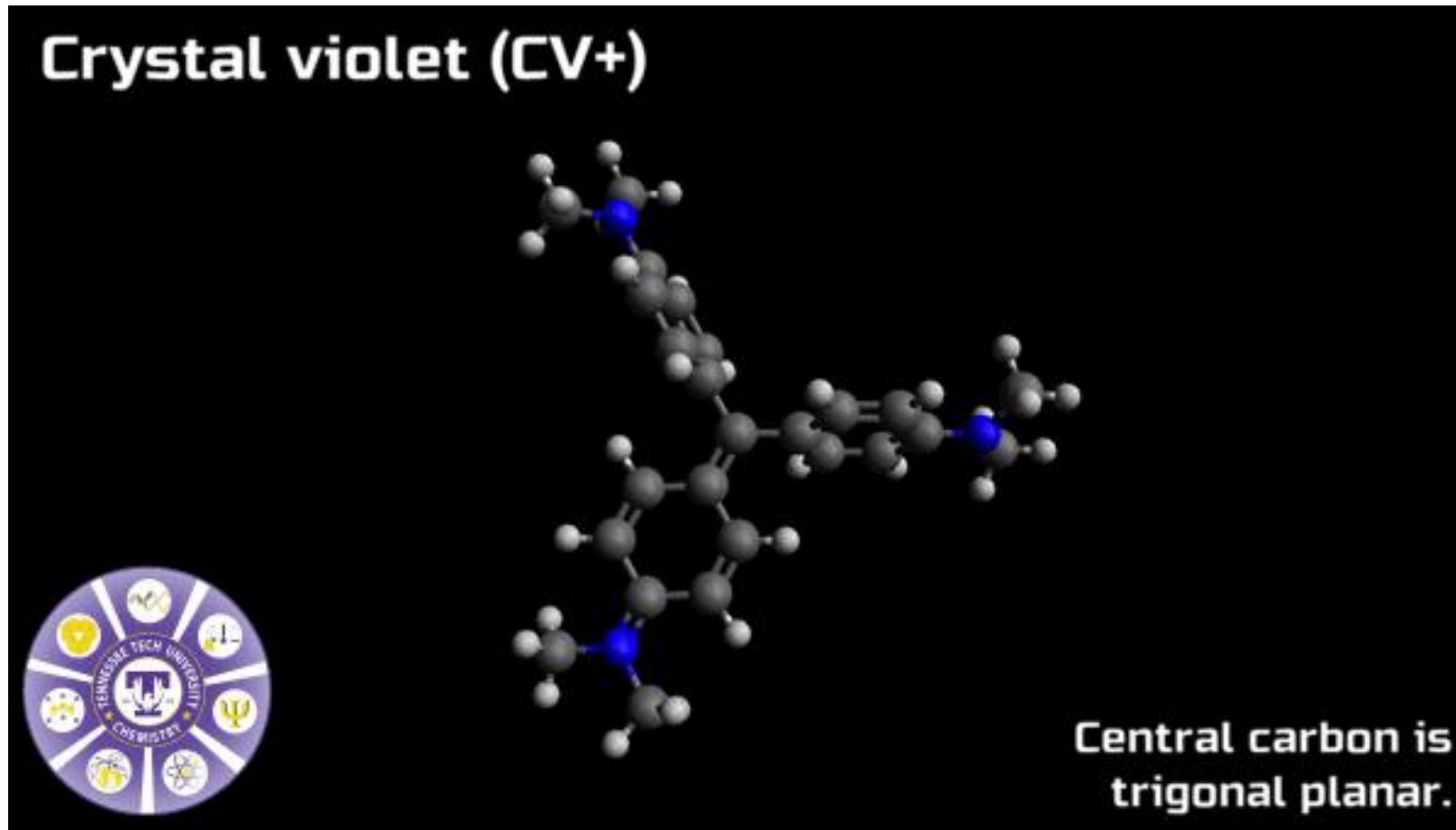
Covariates appearing in the model are evaluated at the following values: ACT Science Score = 26.34, ACT Math Score = 25.88

Atoms First – Topic Comparison

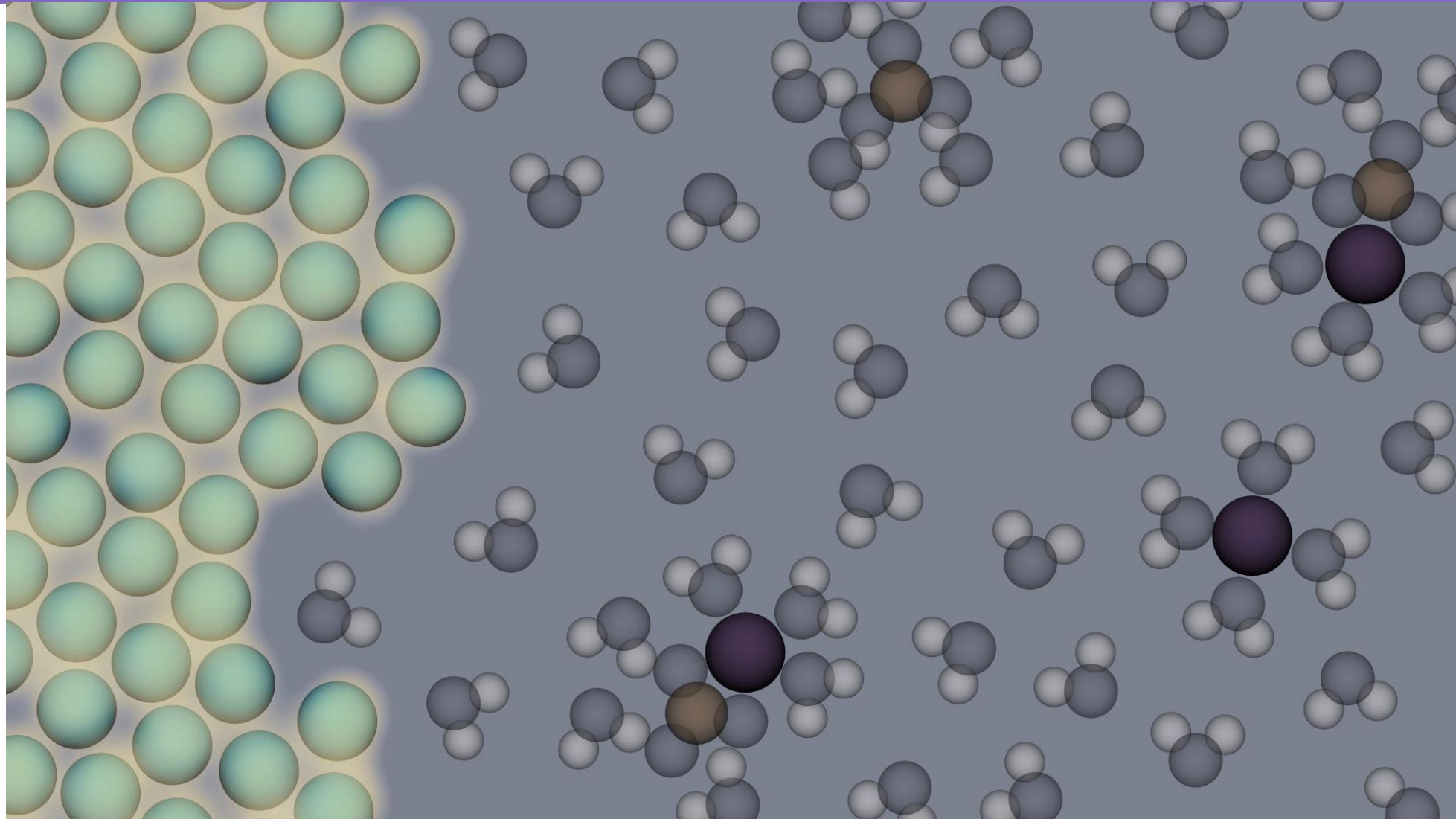
Comparison of student percent success rate on topics on the ACS standard exam for the last semester of the SA and most recent semester of AA (AA2)			
Topic	AA2	SA	ΔAA2-SA
Atoms and Subatomic Particles	76.75	69.64	7.11
Electronic Structure	53.09	38.95	14.14
Compounds	65.43	65.08	0.35
Molecular Structure and Bonding	60.49	46.20	14.29
Chemical Reactions	66.89	70.33	-3.44
Thermochemistry	64.69	68.34	-3.65
Gases	62.35	61.13	1.22

Educational Technology Development

- Developing computer animations/visualizations.
 - Programmers needed!



Example Animation



Rezsnyak Lab

- Chemistry education **research** (CER)
- Skills/experiences:
 - Practical laboratory skills
 - Pedagogy
 - Human subjects research
 - Statistical methods
 - Programming/modeling

