# Update 1

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By M10, the following have occurred with regard to the project:

1. A webpage was created to include relevant information to the project. I want to be able to create another html file to write down all of the updates rather than having to make separate pdf files each time I have updates for the project. The abstract of the project as well as each revision of the proposal is online.

2. A VPython program has been made to create two molecules: methane and bromomethane/methyl bromide with the partial electric charges properly accommodated onto each atom in each molecule as calculated with Marvin Sketch (a program that approximates models of molecules). Spacefill models of the molecules are made rather than ball and stick models (the difference between these will be specified in the background information in the proposal).

Future plans include the following:

1. Next step in the project is to assign electronegativity values to each atom in the molecules (based off the periodic table) and to create dipole moment vectors for the molecules based on the dipole moments of the bonds in the molecule.

2. After that, I want to put two molecules together and find the correct relation that monitors repulsive forces between two molecules and, because of the different inverse relations that ion-ion and dipole-dipole bonds share with distance, graph the energies of the bonds as the molecules move closer and farther away from each other. Comparing them will show that one bond is stronger than the other.

3. Maybe further, I'd like to compare polar molecules to nonpolar molecules. Using their dipole moments, polar molecules will move in electric fields whereas nonpolar molecules will not move. So, I want to try to mimic the effect of an electric field and observe the actions of the molecules.