* 1. No. because without random motion, the molecules will move in order and, very likely, they are never going to bump into each other, so no self-assembly will form.
  2. No. without stickiness, even the molecules bump into each other, they will just bounce off because there is no stickiness, just like what we see in the first model; while with stickiness, the molecules can stick together when they collide, and gradually form a self-assembly.

1. A will assembly into C, but B won’t. because A and C are similar to a mortise-and-tenon structure, will can make A fit right into C; while for the sphere B, regardless of stickiness and random motion, it will be hard for it to fit in only if B changes its shape.
2. No. Only when monomers of two different colors (kinds) collide right at the face with an “s”, will the two monomers form a dimer.
3. For every molecule, the charges are +0.4, -0.4, +0.4, -0.4 from left to right. They self-assembled because they are charged and because opposite poles attract while like poles repel, the molecules self-assembled.
4. I changed one of the negative charge to a positive charge that is equal in quantity. The circle immediately broke up because of the repulsion between two positive charges, and the one with + on both sides was broken up and it gradually fit into a semicircle, and another two connect to the one with two positive charges and become an “s” shape.
5. give all the green surface equal positive charges.
6. Self-assembly. Because pushing around causes sticky-fingers effect so that the molecules will always stick to the blue steering and it becomes impossible for the molecules to get off.