In this research, we will conduct experiments using natural E. coli as well as the examiner. As mentioned earlier, there are no examples of moving DNA circuits with natural cells. E. coli has already proposed a method such as puncturing, and thought that it is suitable as a trigger for experiment of DNA circuit.

Escherichia coli is a type of prokaryote that has prokaryotic cells. It is used as an experimental material and studied in detail as a model organism living in an animal digestive organism and inhabiting the large intestine. Unlike eukaryotic cells such as human cells composed of three layers, cell membranes, cell walls, cytoplasmic matrix, chromosomes containing DNA are present in the cells.

We conducted a simulation on the chemotaxis of E. coli. Chemotaxis is a mechanism by which E. coli changes direction, and it is one of the representative signal transduction of E.coli. Since ATP is required for chemotaxis, simulation was performed when ATP was removed as with the Kholodenko model. The result is shown Figure 8.

From Figure 8, it was confirmed that signal transmission stops like the Kholodenko model.