1. The plots related to hydrogel and flexible boundaries use FEM with user defined subroutine file (details seen in .for file) conducted in commercial software Abaqus.
2. Figure 4.3 to Figure 4.10 are plots by FEM model using different structural parameters including, pH, temperature, structure length, and structure width.
3. Among all the plots, the **x values** are the input changed in the software and the **y values** are the results by simulations.
4. The procedures of how to run .inp file to get the data is shown in READ ME file.