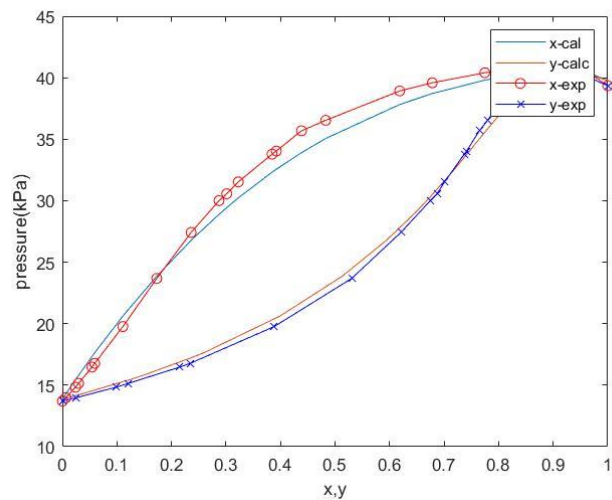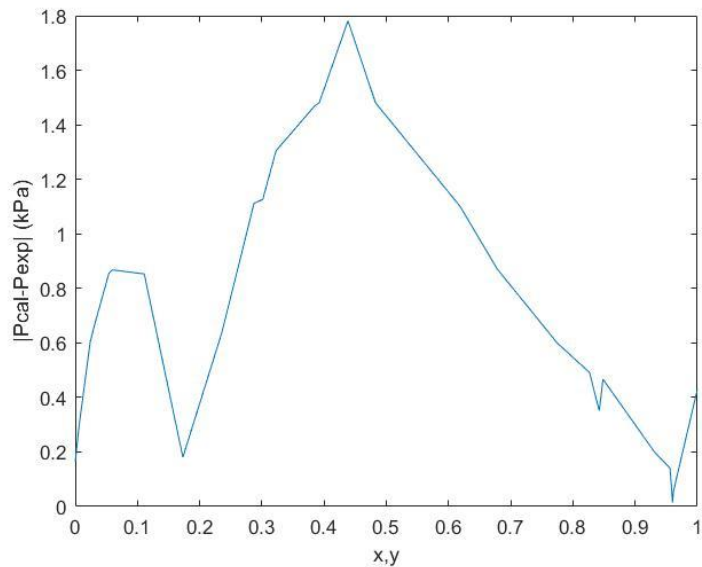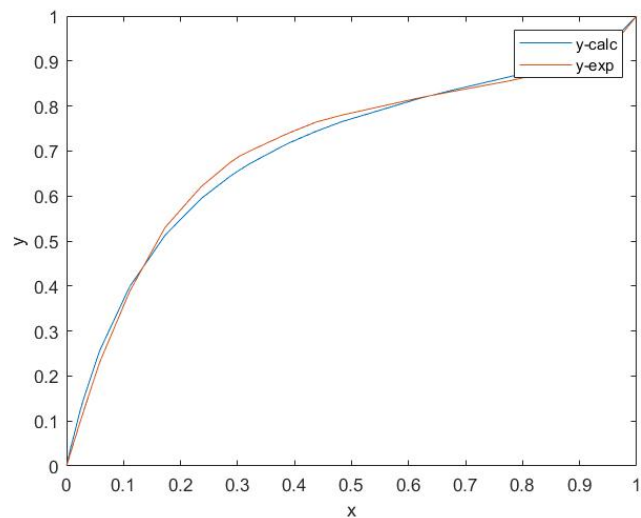The following graphs are for the first part of problem 1

The following graphs are for the second part of problem 1