Name _____ Date _____

Worksheet 19.2: Practical on making buffers and testing their buffering capacities

(TR material subchapter 19.12, main teaching ideas, activity 2)

Analysis of results

1 Record the raw quantitative data in a table. You need to include their units and absolute uncertainties where appropriate.

2 Plot a graph of your raw data for pH against volume of alkali added; all sets of data should be presented on the same axes.

Evaluation of experiment

3 Identify the volume combination of a weak acid and its conjugate base that is the most effective at resisting pH changes when a small amount of acid or alkali is added.

4 Explain, using equations, how a buffer resists changes in pH when a small amount of acid or alkali is added.

5 Calculate the expected pH values of each buffer solution prepared and work out the percentage errors in your experimental values (pka of CH_3COOH = 4.76).