

Name & Entry No.:

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SBL100 LABORATORY

Laboratory on Buffers

Aim: To determine buffering ranges and capacities along with pKa values for biologically relevant buffers.

Methodology: (1) Operations of pH meter, understanding the pH probe function, calibration of pH meter.
(2) Micropipetting operations. (3) Titrations using micropipettes.

Results: IN THE SPACE GIVEN BELOW AND/OR ON THE BACK SIDE

1. SHOW THE PLOTS OF ALL THREE COMPLETE TITRATIONS (a titration will be considered complete only when experiments with both acid and base have done, X-axis shows volume of H^+ / OH^- added and Y-axis shows pH). (3)
2. ON THE PLOTS, MARK THE BUFFERING RANGE AND pKa value(s) by arrows. (3)
3. Answer the following: Theoretically, any titration plot as shown by you for (1) must have $[H^+]/[OH^-]$ on the X-axis based on the Henderson-Hasselbalch equation. However, you have plotted volume of acid/base added. Why? What is/are the assumption(s) involved? (3)

Conclusions: FILL IN THE INFORMATION BELOW

1. Possible identity (full name) of the “unknown” buffer =

(1)