Appendix

3.4.6 Reagents:

3.4.6.1 Hydrogen peroxide:

This was obtained from Agropharm Limited as 3% aqueous solution for the catalase test.

3.4.6.2 Oxidase test reagent:

It was obtained from British Drug House, London (B.D.H), and prepared as fresh 1% solution of tetramethyl-P-phenylenediamine dihydrochloride (Barrow and Feltham, 2003).

3.4.6.3 Potassium hydroxide;

This was obtained from B.D.H, and prepared as 40% aqueous solution for V.P test (Barrow and Feltham, 2003).

3.4.6.4 Kovac's reagent:

An amount of five grams of p-dimethylaminobenzaldehyde was dissolved in 75 ml of amyl alcohol in water bath (50°C-55°C). then cooled and 25 ml of concentrated hydrochloric acid was added carefully, mixed well, and stored at 4°C for indole test (Barrow and Feltham, 2003).

3.4.6.5 Methyl red solution:

An amount of 0.04 grams of methyl red was dissolved in 40 ml ethanol and diluted to 100 ml distilled water. It was used for M.R test (Barrow and Feltham, 2003).

3.4.6.6 α-naphthol solution:

This reagent was obtaind from B.D.H and prepared as 45 aquous solution for Voges-Proskaur test (Barrow and Feltham, 2003).

3.4.7 Indicators:

3.4.7.1 Bromothymol blue:

This indicator was obtained from BDH and prepared by dissolving 0.2 gram powder in 100 ml distilled water.

3.4.7.2 Phenol red:

It was supplied by Hopkins and William Ltd, London.

3.4.7.3 Andrade's indicator (Barrow and Feltham, 1993):

Five grams of acid fuchsin was dissolved in one litre of the distilled water, then 150 ml of N-NaoH was added, mixed and left at room temperature for 24 hours, the colour should change from red to brown.