How to Prepare Solutions and Buffers

1.0 M Acetic Acid:
To 400 mL D.I. H_2O add 28.6 mL glacial acetic acid. Dilute to 500 mL with D.I. H_2O. Storage: 25 °C in glass or plastic. Stability: 6 months

100 mM Acetic Acid:
Dilute 40 mL 1.0 M acetic acid to 400 mL with D.I. H_2O. Mix. Storage: 25 °C in glass or plastic. Stability: 6 months

100 mM Acetate Buffer (pH 4.5):
Dissolve 2.93 g sodium acetate trihydrate in 400 mL D.I. H_2O; add 1.62 mL glacial acetic acid. Dilute to 500 mL with D.I. H_2O. Mix. Adjust pH to 4.5 ± 0.1 with 100 mM sodium acetate or 100 mM acetic acid. Storage: 25 °C in glass or plastic. Stability: 6 months; Inspect daily for contamination.

1.0 M Acetate Buffer (pH 5.0):
Dissolve 42.9 g sodium acetate trihydrate in 400 mL D.I. H_2O; Add 10.4 mL glacial acetic acid. Dilute to 500 mL with D.I. H_2O. Mix. Adjust pH to 5.0 ± 0.1 with 1.0 M sodium acetate or 1.0 M acetic acid. Storage: 25 °C in glass or plastic. Stability: 6 months; Inspect daily for contamination.

100 mM Acetate Buffer (pH 5.0):
Dilute 40 mL 1.0 M acetate buffer to 400 mL with D.I. H_2O. Mix. Storage: 25 °C in glass or plastic. Stability: 6 months

7.4 M Ammonium Hydroxide:
To 50 mL D.I. H_2O add 50 mL concentrated NH_4OH. Mix. Storage: 25 °C in glass or fluoropolymer plastic. Stability: Storage condition dependent.

100 mM Hydrochloric Acid:
To 400 mL D.I. H_2O add 4.2 mL concentrated HCl. Dilute to 500 mL with D.I. H_2O. Mix. Storage: 25 °C in glass or plastic. Stability: 6 months

Methanol /Ammonium Hydroxide (98:2):
To 98 mL CH_3OH add 2 mL concentrated NH_4OH. Mix. Storage: 25°C in glass or fluoropolymer plastic. Stability: 1 day.

0.35 M Sodium Periodate:
Add 37.5 g sodium periodate to a 500 mL volumetric flask, dilute to volume with D.I. H_2O. Mix. Stability: 2 mos. at room temperature.

CH_2Cl_2 / IPA / NH_4OH (78:20:2):
To 20 mL IPA, add 2 mL concentrated NH_4OH. Mix. Add 78 mL CH_2Cl_2. Mix. Storage: 25 °C in glass or fluoropolymer plastic. Stability: 1 day

100 mM Phosphate Buffer (pH 6.0):
Dissolve 1.70 g Na_2HPO_4 and 12.14 g NaH_2P0_4 H_2O in 800 mL D.I. H_2O. Dilute to 1000 mL using D.I. H_2O. Mix. Adjust pH to 6.0 ± 0.1 with 100 mM monobasic sodium phosphate (lowers pH) or 100 mM dibasic sodium phosphate (raises pH). Storage: 5°C in glass. Stability: 1 month; Inspect daily for contamination.

500 mM Phosphoric Acid:
To 400 mL D.I. H_2O add 17.0 mL concentrated phosphoric acid. Dilute to 500 mL with D.I. H_2O. Mix. Storage: 25 °C in glass or plastic. Stability: 6 months

1.0 M Sodium Acetate:
Dissolve 13.6 g sodium acetate trihydrate in 90 mL D.I. H_2O. Dilute to 100 mL with D.I. H_2O. Mix. Storage: 25 °C in glass or plastic. Stability: 6 months

100 mM Sodium Acetate:
Dilute 10 mL 1.0 M sodium acetate to 100 mL with D.I. H_2O. Mix. Storage: 25 °C in glass or plastic. Stability: 6 months

100 mM Sodium Borate:
Dissolve 3.81 g Na2B4O7•10 H_2O in 90 mL D.I. H_2O. Dilute to 100 mL with D.I. H_2O. Mix. Storage: 25 °C in glass or plastic. Stability: 6 months.

100 mM Sodium Phosphate Dibasic:
Dissolve 2.84 g Na_2HPO_4 in 160 mL D.I. H_2O. Dilute to 200 mL using D.I. H_2O. Mix. Storage: 5 °C in glass. Stability: 1 month; Inspect daily for contamination.

100 mM Sodium Phosphate, Monobasic:
Dissolve 2.76 g NaH_2PO_4-H_2O in 160 mL D.I. H_2O. Dilute to 200 mL with D.I. H_2O. Mix. Storage: 5 °C in glass. Stability: 1 month. Inspect daily for contamination.

100 mM Sulfuric Acid:
To 400 mL D.I. H_2O add 2.7 mL concentrated H_2SO_4. Dilute to 500 mL with D.I. H_2O. Mix.
Storage: 25 °C in glass or plastic. Stability: 6 months