SOP: SP023.1
Modified: 3/5/18 by MCL

Operation of (SympHony) pH meter

Materials and Reagents:
1. pH meter
2. Sample to be analyzed
3. Magnetic stir plate
4. Magnetic stir bar
5. Appropriate acid or base to adjust pH
6. pH 4, 7, 10 calibration buffers (Beckman 582517, 582521 and, 582525 respectively)
7. ddH$_2$0 water bottle
8. Discard beaker
9. 3M KCl probe storage buffer (Corning 47706)

Protocol:

1._____ Press **Power** button (once on, the **Power** button toggles LCD backlight on/off).

2._____ Press **Calibrate**.

3._____ Select two appropriate calibration buffers to bracket expected sample pH.

4._____ Thoroughly rinse probe with ddH$_2$O, place in the first calibration buffer.

5._____ When the **pH** icon stops flashing, press **Calibrate** to confirm (note 1).

6._____ Thoroughly rinse probe with ddH$_2$O, place in the second calibration buffer.

7._____ When the **pH** icon stops flashing, press **Measure** to save and end calibration (note 2).

8._____ Thoroughly rinse probe with ddH$_2$O and place in stirring sample to be analyzed. The **pH** icon will stop flashing when the reading is stable (note 3).

9._____ Adjust sample pH to desired point with appropriate acid or base.

10._____ Thoroughly rinse probe with ddH$_2$O and place in probe storage buffer (note 4).

11._____ Press and hold the **Power** button to turn off (note 5).

Notes:
1. If calibration is not accurate, use the **Up** and **Down** keys to set proper pH (use **Digit** key to correct each digit).
2. The pH meter will briefly display the slope value of the calibration. The slope value should be greater than 95%. If the slope is less, the calibrations buffers may need to be replaced.
3. If the pH meter is in AUTO-READ measurement mode (AR icon appears on the screen), the display will freeze and the **Measure** button must be pressed again to continue reading.
4. pH probe must be stored submerged in storage buffer when not in use.
5. The meter will shut off automatically after 20 minutes without a keypress.