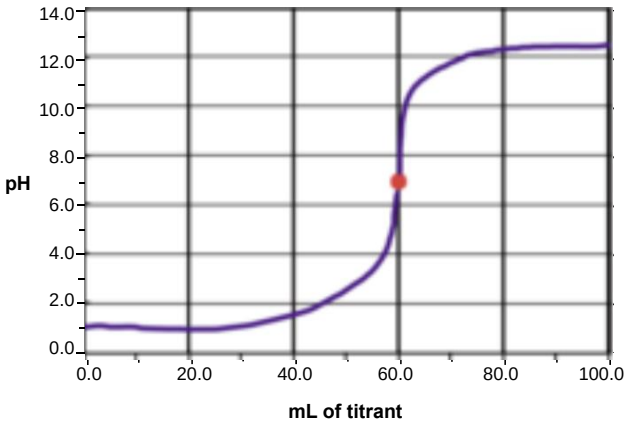
CONCEPT: STRONG TITRATE–STRONG TITRANT CURVES

- In these 2 types of titration curves both the titrate and titrant represent a _____ acid or base.

Strong Titrate–Strong Titrant Curve

Strong Acid–Strong Base Titration Curve



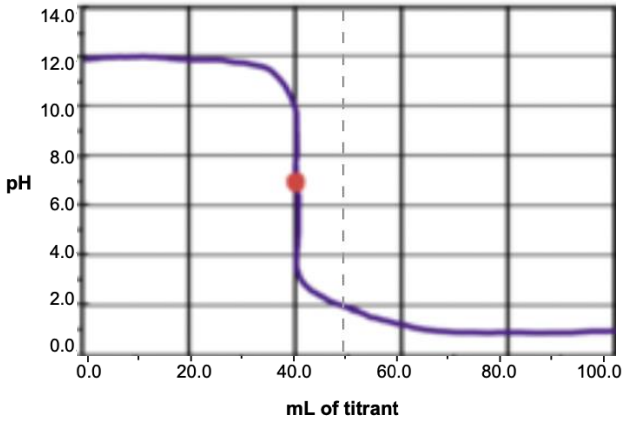
☐ **Titrate** = _____ and **Titrant** = _____

☐ pH starts ___ 7.0 and increases sharply with added base.

☐ pH ___ 7.0 at the **Equivalence Point**.

☐ After the **Equivalence Point**, strong acid is _____ and excess strong base remains.

Strong Base–Strong Acid Titration Curve



☐ **Titrate** = _____ and **Titrant** = _____

☐ pH starts ___ 7.0 and decreases sharply with added acid.

☐ pH ___ 7.0 at the **Equivalence Point**.

☐ After the **Equivalence Point**, strong base is _____ and excess strong acid remains.

EXAMPLE: Consider the titration of 100.0 mL of 0.500 M a HBr solution with 120.0 mL of 0.450 M KOH solution. Which species would be in excess?

a) HBr b) KOH c) H_3O^+ d) Not Enough Information

PRACTICE: Which combination would give a pH = 7.0 at the equivalence point?

a) HNO_3 and NH_3 b) HCl and NH_4^+ c) $HC_2H_3O_2$ and NaOH d) HBr and NaH