

Acid

Donates H^+

6 Strong Acids

- 1) HCl
- 2) HBr
- 3) HI
- 4) HNO₃
- 5) HClO₄
- 6) H₂SO₄

100% dissociation



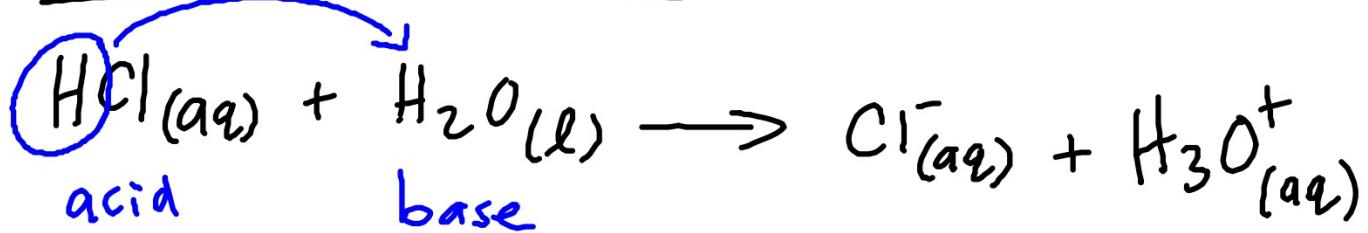
Base

Takes H^+

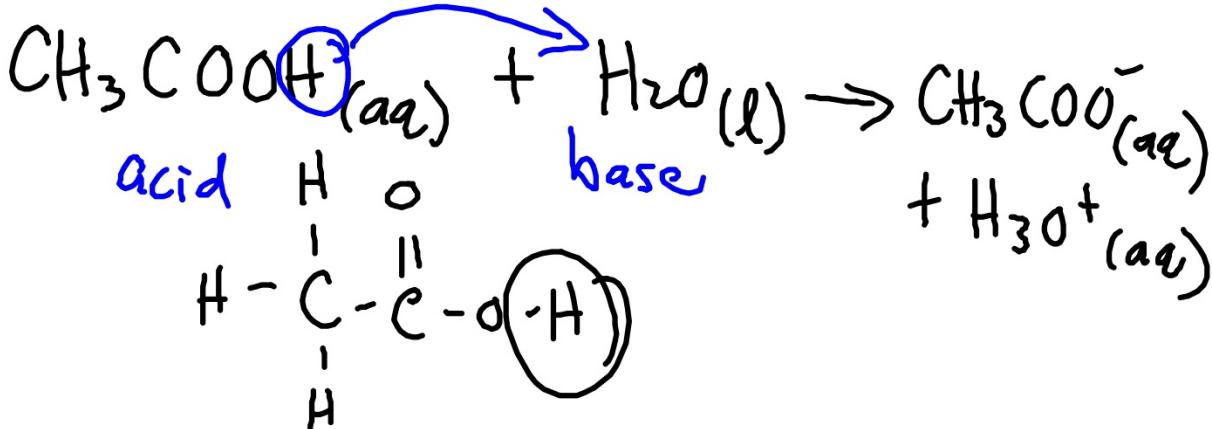
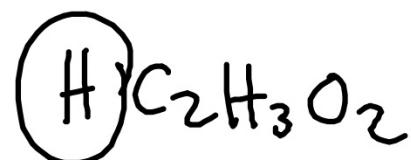
8 Strong Bases

- 1) LiOH
- 2) NaOH
- 3) KOH
- 4) RbOH
- 5) CsOH
- 6) Ca(OH)₂
- 7) Sr(OH)₂
- 8) Ba(OH)₂

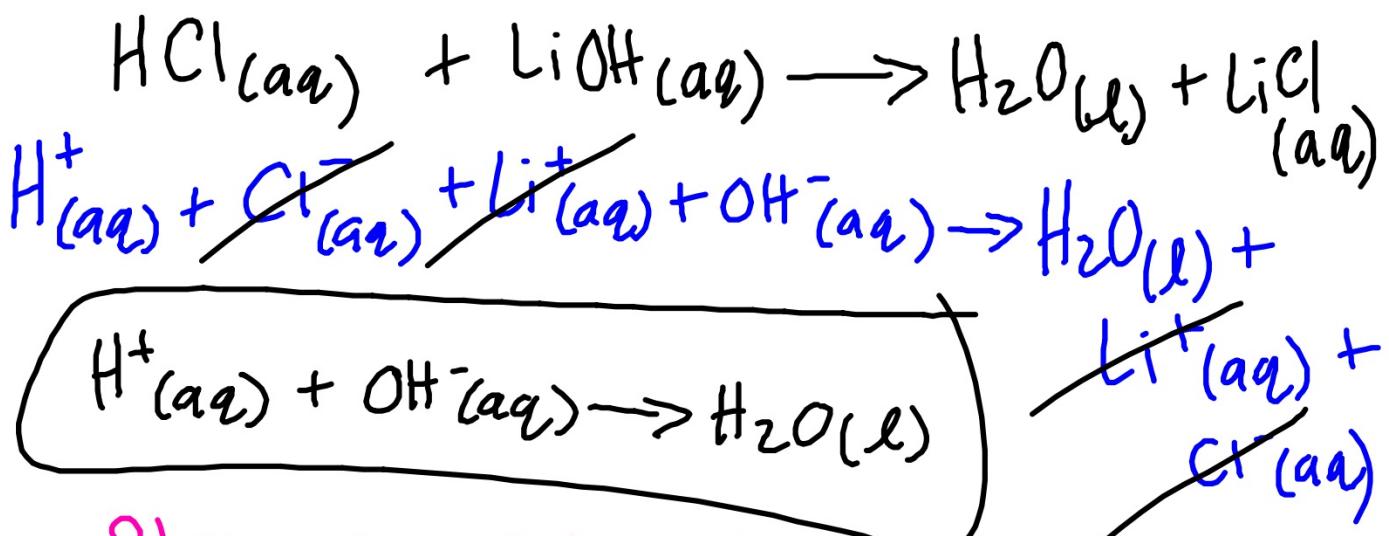
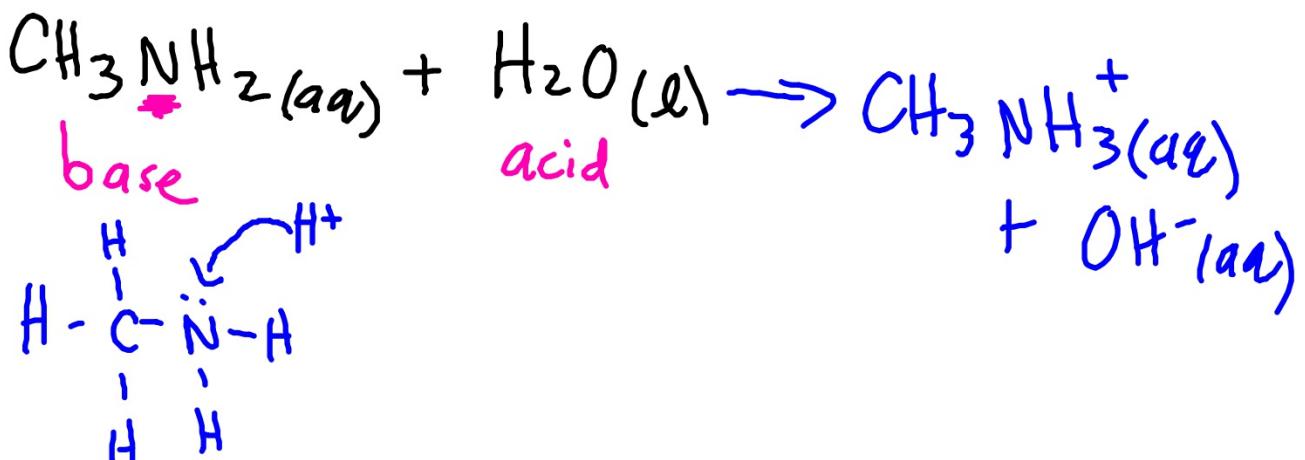
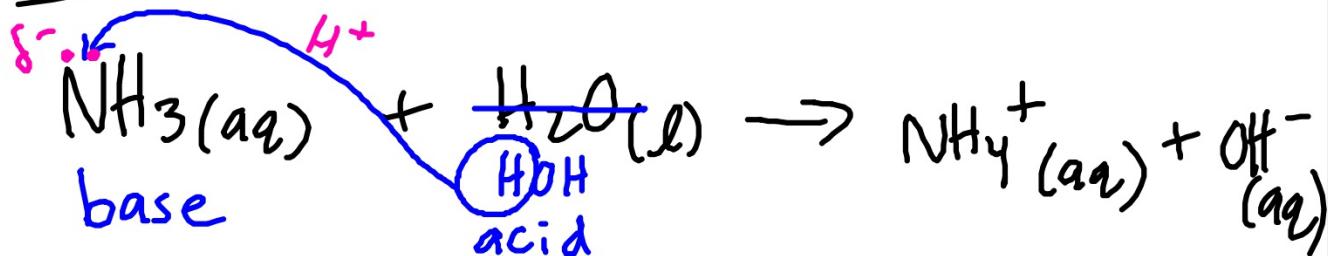
Strong Acid in H₂O



Weak Acid in H₂O

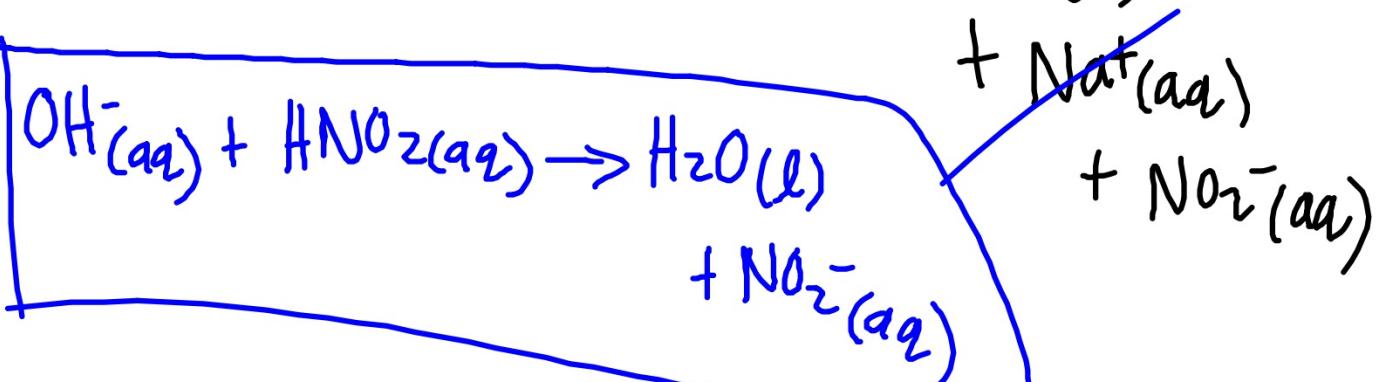
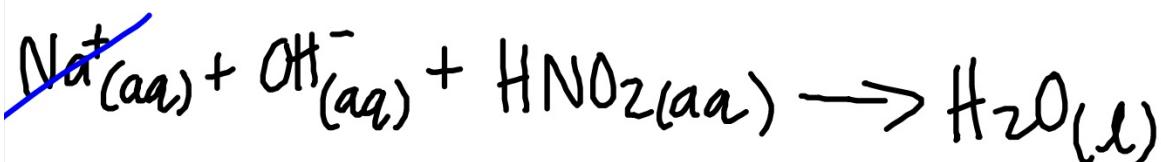
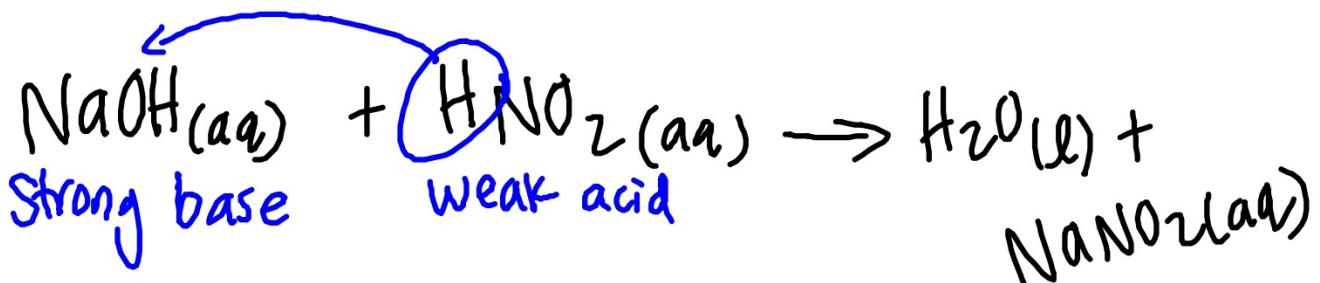
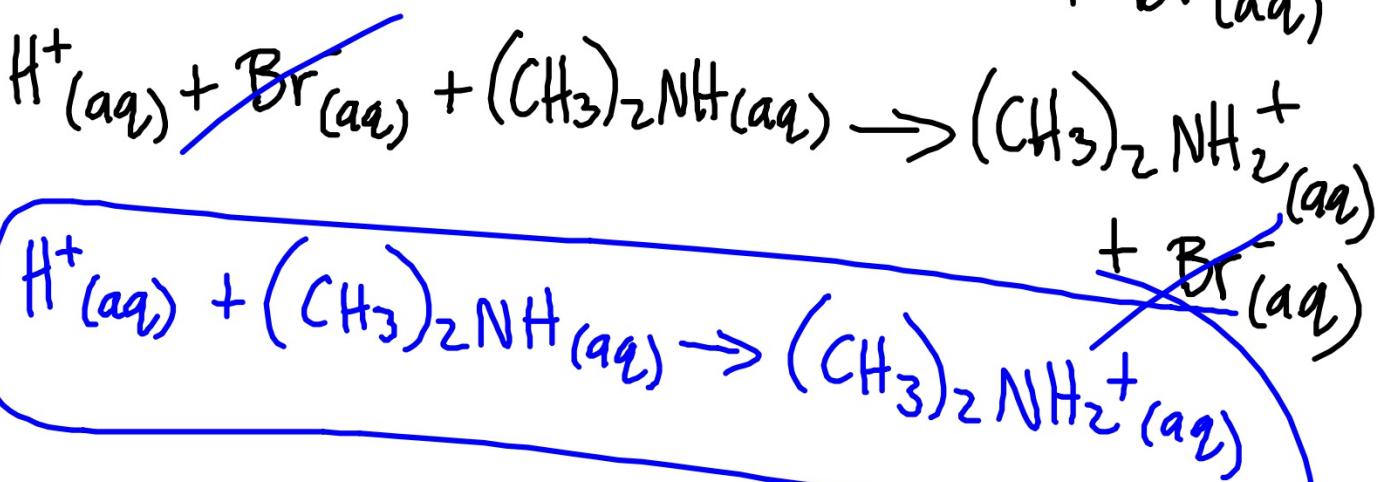
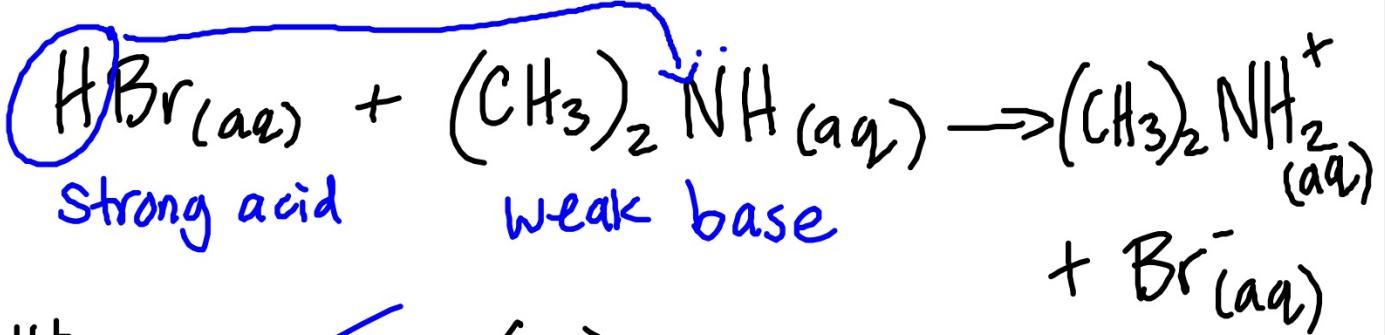


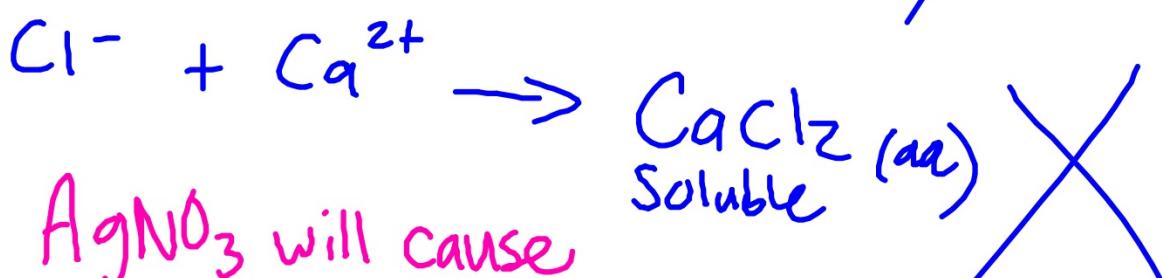
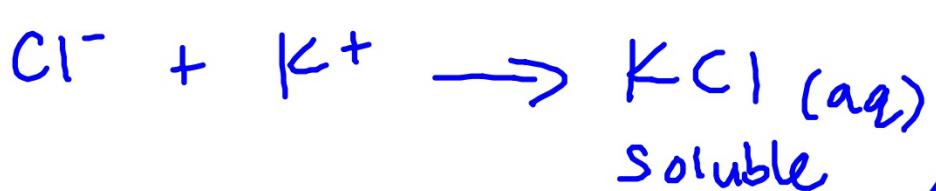
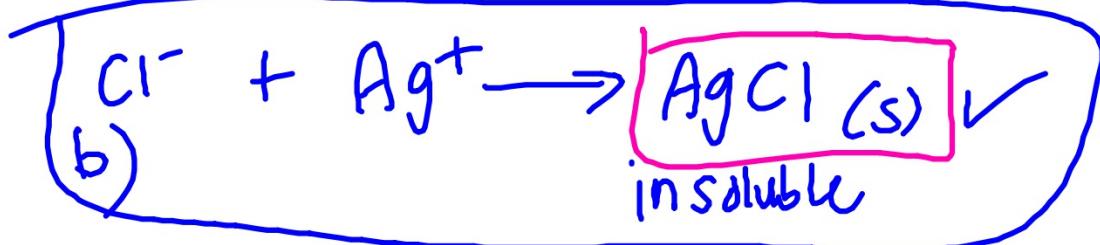
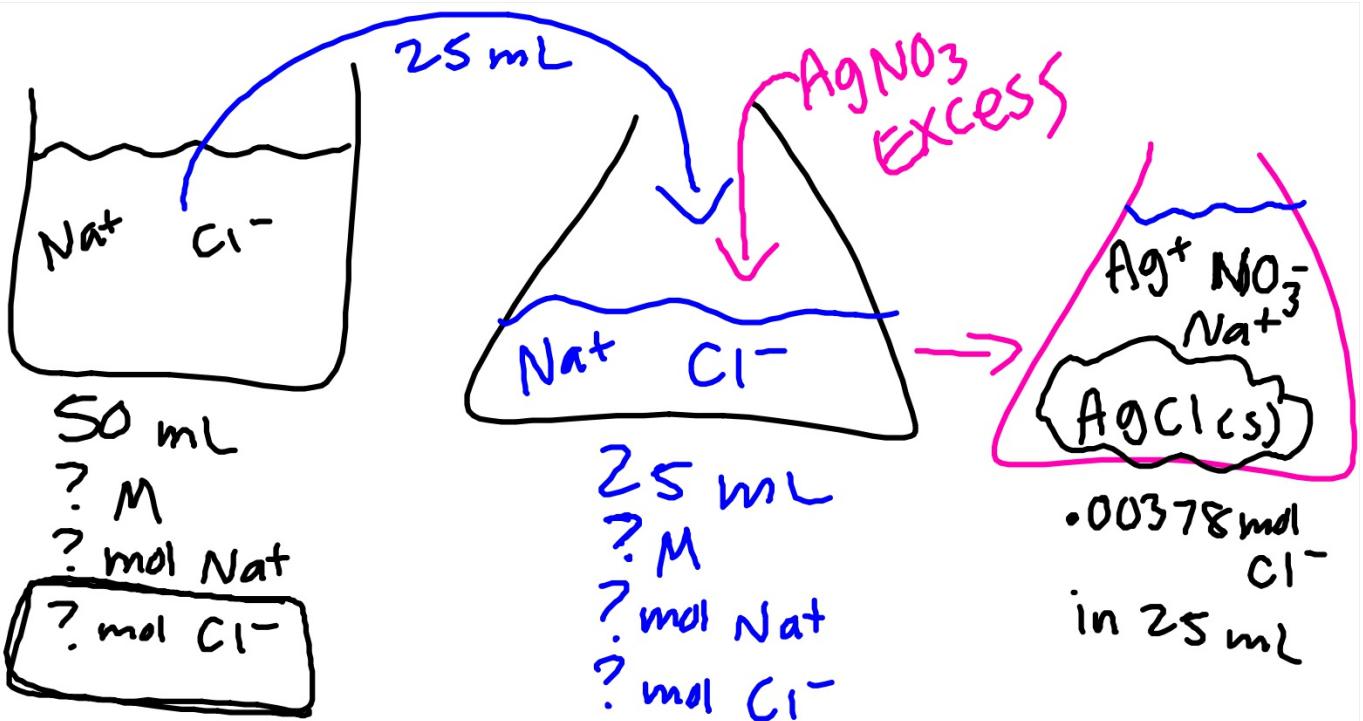
Weak Base in Water



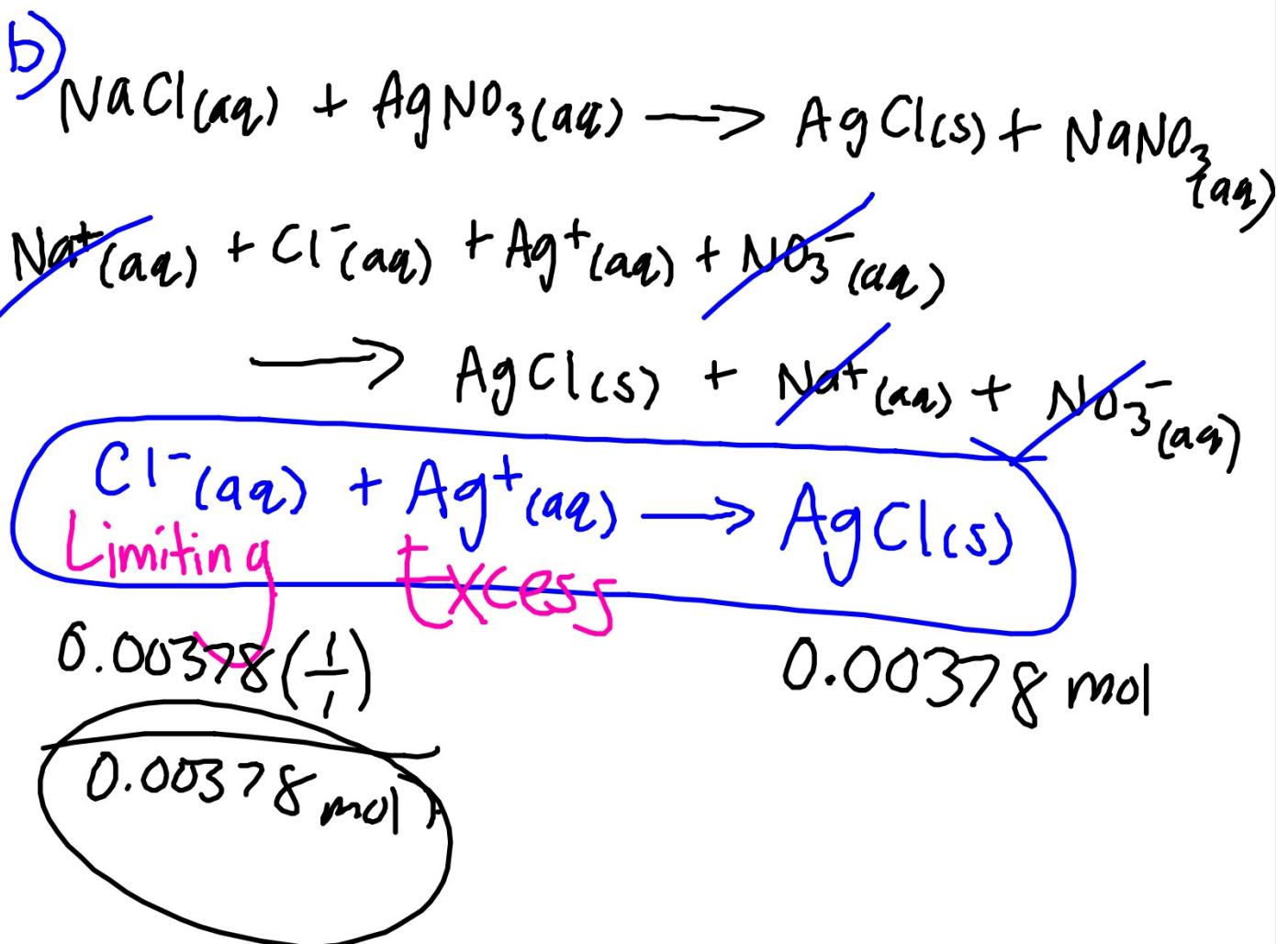
Strong electrolytes = IONS

- ① aqueous ionic
- ② Strong acids
- ③ Strong bases





AgNO₃ will cause
precipitation of Solid AgCl.



c) $1.866 \text{ g} - 1.324 \text{ g} = 0.542 \text{ g AgCl}$

$$\frac{0.542 \text{ g AgCl}}{1 \text{ mol AgCl}} \times \frac{1}{143.32 \text{ g}} = 0.00378 \text{ mol AgCl}$$

d) $\frac{0.00378 \text{ mol AgCl}}{1 \text{ mol Cl}^-} = 0.00378 \text{ mol Cl}^-$
 $0.00378 \text{ mol Cl}^- \text{ in } 25 \text{ mL}$

$$(.00378 \text{ mol Cl}^-)(2) = 0.00756 \text{ mol Cl}^-$$

in 50 mL

$$\frac{0.00756 \text{ mol Cl}^-}{1 \text{ mol Cl}^-} \times \frac{35.45 \text{ g Cl}^-}{1 \text{ mol Cl}^-} = 0.268 \text{ g Cl}^-$$

② 1 L 3 M LiCl

$$(3 \text{ M})(1 \text{ L}) = 3 \text{ mol LiCl}$$

$$\frac{3 \text{ mol LiCl}}{1 \text{ mol LiCl}} \times \frac{42.39 \text{ g LiCl}}{1 \text{ mol LiCl}} = 127.17 \text{ g LiCl}$$

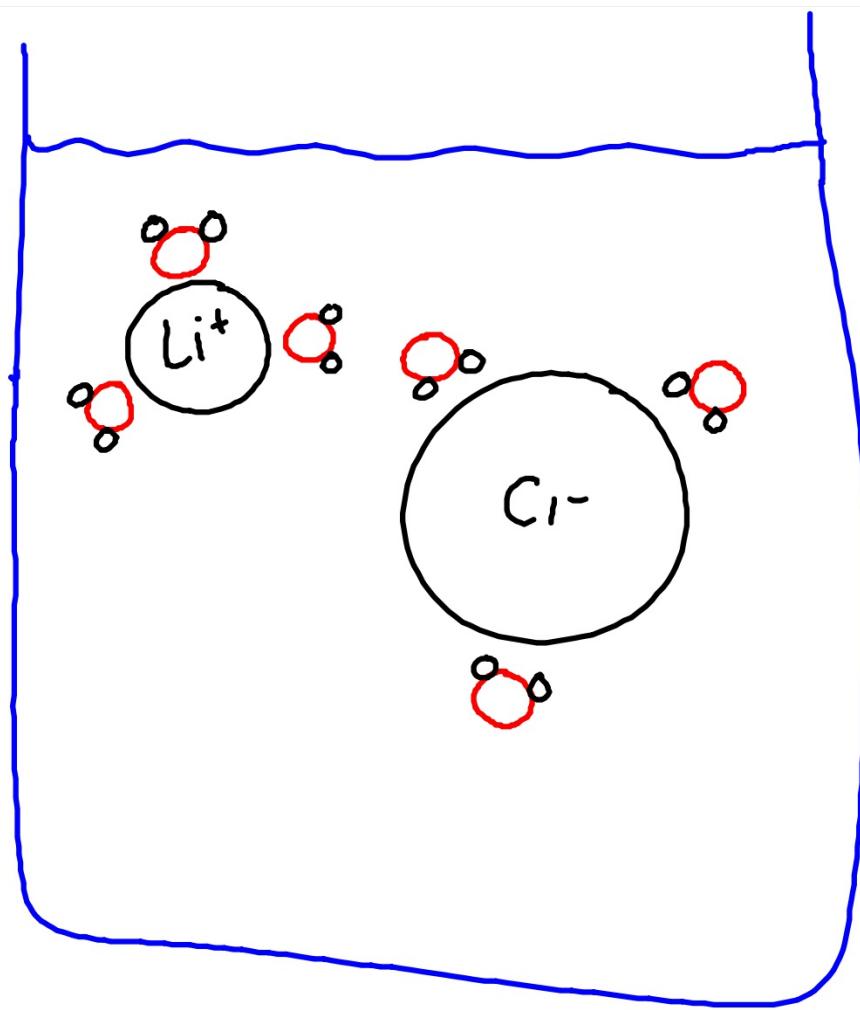
Steps

① measure 127.17 g LiCl

② place the 127.17 g LiCl into a 1 L
Volumetric flask

- ③ add distilled water
- ④ Swirl to dissolve LiCl(s)
- ⑤ add water to calibration line
- ⑥ Cap & invert

b)



$$c) M_1 V_1 = M_2 V_2$$

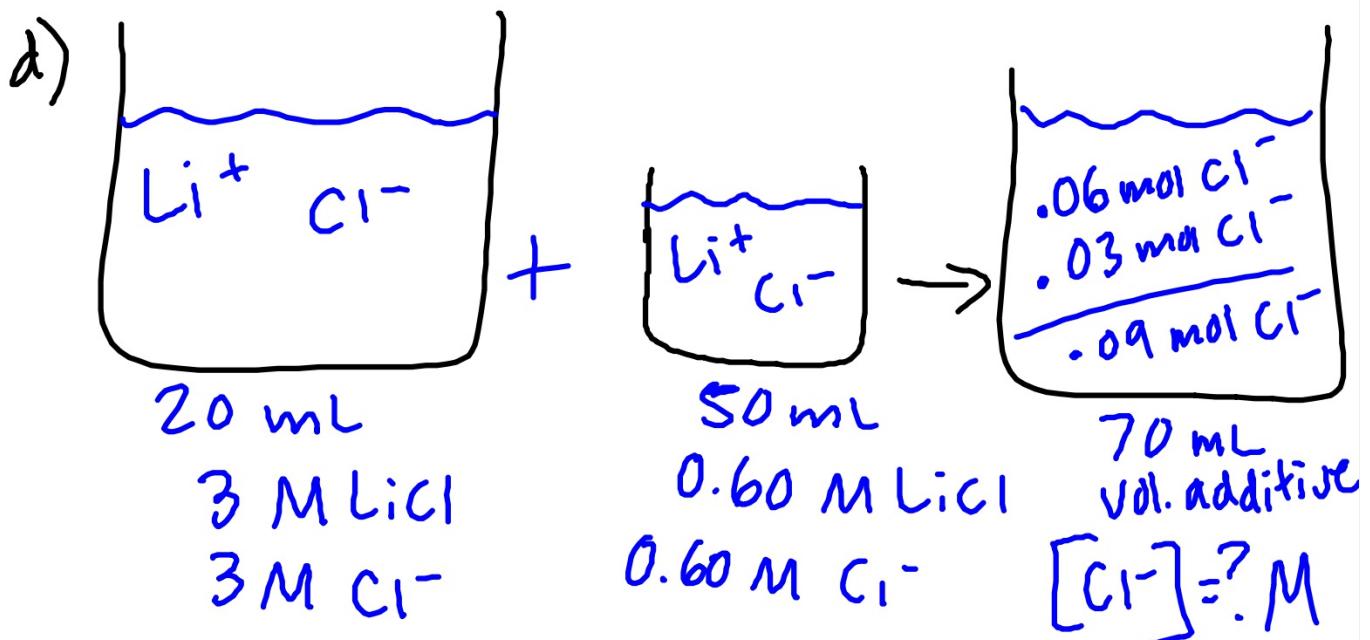
$$(3M)(V_1) = (0.6M)(2L)$$

$$3V = 1.2$$

$$V = 0.40 \text{ L}$$

Steps

- ① measure 0.40 L of 3M LiCl(aq) using a pipet
- ② place LiCl(aq) into a 2L volumetric flask
- ③ add distilled water
- ④ swirl
- ⑤ add Water to calibration line
- ⑥ Cap & Invert



$$3 \text{ M Cl}^- = \frac{x}{0.02 \text{ L}}$$

$$x = 0.06 \text{ mol Cl}^-$$

$$0.60 \text{ M Cl}^- = \frac{x}{0.05 \text{ L}} = \frac{0.09 \text{ mol}}{0.07 \text{ L}}$$

$$x = 0.03 \text{ mol Cl}^-$$

$$= 1.3 \text{ M}$$