24. $C_i = 14.8 \frac{mol}{L}$, $V_i = ?$ } concentrated

$V_f = 2.0\,L$, $C_f = 0.70\ mol/L$ } preparing

$C_i > C_f$

$$V_i = \frac{C_f V_f}{C_i} = \frac{(0.70 \frac{mol}{L})(2.0\,L)}{14.8 \frac{mol}{L}} = 0.095\,L$$

25. $C_f = 1.00 \times 10^{-6} \frac{mol}{L}$, $V_f = ?$ } make

$V_i = 50.0\,L$, $C_i = 3.50\ mol/L$ } diluting

$C_i > C_f$

$$V_f = \frac{C_i V_i}{C_f} = \frac{(50.0\,L)(3.50 \frac{mol}{L})}{1.00 \times 10^{-6} \frac{mol}{L}} = 1.75 \times 10^{8}\,L$$

26. $C_f = ?$, $V_i = 25.0\,mL = 0.0250\,L$, $C_i = 15.9 \frac{mol}{L}$, $V_f = 10.0\,L$ } concentrated

$V_f > V_i$

$$C_f = \frac{C_i V_i}{V_f} = \frac{(15.9 \frac{mol}{L})(0.0250\,L)}{10.0\,L} = 0.0398 \frac{mol}{L}$$