

Answer on the question #59897, Chemistry / Other

Question:

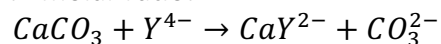
calculate the titer in mg CaCO₃/mL of an edta solution with molar concentration 0,0100 M.

Solution:

Molar mass of CaCO₃ is:

$$M(\text{CaCO}_3) = 100.0869 \text{ g mol}^{-1}$$

CaCO₃ reacts with edta with 1:1 molar ratio:



Then, to calculate the titer of edta solution in mg CaCO₃/mL, we just calculate what would be concentration of CaCO₃ in mg/mL, if molar concentration is 0.0100 mol/L:

$$t = c \cdot M = 0.0100 (\text{mol L}^{-1}) \cdot 100.0869 (\text{g mol}^{-1}) = 1.001 \text{ g L}^{-1}, \text{ or } 1.001 \text{ mg/mL}$$

Answer: 1.001 mg/mL