

Chem 221 Report Sheet

Compleximetric Determination of River Water (CD)

Names of Group Members: Abdul Fayed Abdul Kodir, Linh Nguyen

TA: Yinon Zhang Section: 21

Unknown Number (if any)

Mass $\text{Na}_2\text{EDTA} \cdot 2\text{H}_2\text{O}$ 0.8653 g M EDTA 0.009298M

Determination of Mg and Ca

Trial	1	2	3
Vol. H_2O sample	<u>75.0mL</u>	<u>75.0mL</u>	<u>75.0mL</u>
Vol. EDTA	<u>12.66mL</u>	<u>12.66mL</u>	<u>12.66mL</u>
Vol. blank	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
M, EDTA	<u>0.009298M</u>	<u>0.009298M</u>	<u>0.009298M</u>
moles Ca + Mg	<u>1.177×10^{-4}</u> mol	<u>1.177×10^{-4}</u> mol	<u>1.178×10^{-4}</u> mol

Determination of Ca

Trial	1	2	3
Vol. H ₂ O sample	<u>75.0 mL</u>	<u>75.0 mL</u>	<u>75.0 mL</u>
Vol. EDTA	<u>10.72 mL</u>	<u>10.79 mL</u>	<u>10.76 mL</u>
Vol. blank	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
M, EDTA	<u>0.009298 M</u>	<u>0.009298 M</u>	<u>0.009298 M</u>
moles Ca	<u>$9.968 \times 10^{-5} \text{ mol}$</u>	<u>$1.003 \times 10^{-4} \text{ mol}$</u>	<u>$1.000 \times 10^{-4} \text{ mol}$</u>
moles Mg	<u>$1.867 \times 10^{-5} \text{ mol}$</u>	<u>$1.742 \times 10^{-5} \text{ mol}$</u>	<u>$1.776 \times 10^{-5} \text{ mol}$</u>
mg CaCl ₂ /L	<u>147.5 mg/L</u>	<u>148.5 mg/L</u>	<u>148.0 mg/L</u>
mg MgSO ₄ /L	<u>29.0 mg/L</u>	<u>28.0 mg/L</u>	<u>28.4 mg/L</u>

Avg. mg CaCl₂/L 148.0 mg/L Avg. mg MgSO₄/L 28.5 mg/L

Std. dev. 0.5 mg/L Std. dev. 0.5 mg/L

RSD 0.33 % RSD 1.8 %